

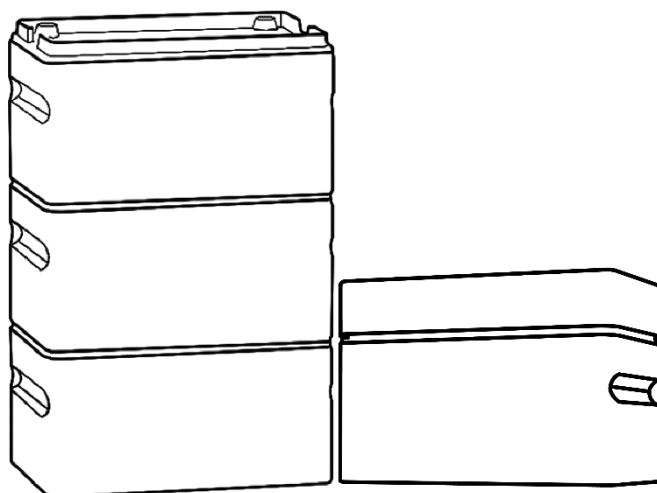
Storcube

Balcony Solar Storage System

S1000

User Manual

(V1.1)



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Disclaimer

In order to protect your legitimate interest, please carefully read the User Manual of this Product before using it, so as to ensure correct use upon full understanding. After reading this Manual, please keep it properly for reference in the future. Failure in operating this Product properly may cause serious injury to yourself or others or cause product damage and property loss. Once started using this Product, you will be deemed to have read, understood, approved and accepted all the terms and contents of this Product manual, disclaimer and safety instructions. Users shall promise to be held liable for their actions and all consequences arising therefrom. We bear no liability for any losses caused by users' failure to use this Product in accordance with *the User Manual*.

In case of product damage or property loss caused by force majeure natural disasters such as lightning strike, earthquake and flood, or in-compliant use of the Balcony Solar Storage system due to local policy restriction, users should be held liable for all consequences arising therefrom, and we should bear no liability for all losses caused thereby.

In compliance with laws and regulations, we have the right of final interpretation to this manual and all relevant documents of this Product. This Manual is subject to update, revision or termination without further notice.

Safety Guidelines

1. Please store this Product in a cool and dry place and Do Not use this Product near any fire.
2. Do Not soak this Product in water. It is not recommended to use this Product in any rain or humid environment.
3. Do Not use this Product in any flammable, explosive or corrosive environment such as gasoline, gas and chemical agent, otherwise, your safety may be endangered.
 - Be sure to operate this Product all the time in accordance with regulations, instructions and signs in an environment where explosion may occur.
 - Do Not store any flammable liquids, gases or explosives in a case containing this Product.
4. Do Not use this Product in any strong electrostatic or strong magnetic field environment.
5. Do Not disassemble or puncture this Product with any sharp object in any way.
6. Do Not use wires or other metal objects for connection without permission, so as not to cause short circuit of this Product.
7. Do Not use any parts or accessories unofficially supplied.
8. When using this Product, please strictly follow the environment temperature for service as specified in this

User Manual. If the temperature is too high, the battery may catch fire or even explode; if the temperature is too low, the performance of this Product will be seriously reduced and may even stop working.

9. Do Not pile any other heavy object on this Product.
10. Please avoid impact, fall or violent vibration, and in case of serious external impact, please immediately turn off the power and stop using this Product. Please fix this Product properly during transportation to avoid vibration and impact. It is recommended to use the original packaging for long-distance transportation.
11. If this Product accidentally falls into water in the process of using, please keep it in a safe open area and Do Not get close to this Product before it is dried in air. The dried product should be not reused but properly disposed of with the method specified in the section of "Waste" below. If this Product caught fire, please use suitable extinguishing media in the following recommended order: water or water mist, sand, fire blanket, dry powder and carbon dioxide fire extinguisher.
12. In case of any dirt on the interface of this Product, please wipe it clean with a dry cloth.
13. Please place this Product carefully to prevent damage caused by dumping. If this Product is seriously damaged after dumping, please shut down immediately, place the battery in an open area away from combustibles or people, and scrap it according to local laws and regulations.
14. Please store this Product out of reach of children and pets to avoid potential safety hazards.
15. If water is found inside this Product, please Do Not power on for use again. Please take measures against electric shock before touching this Product. Please stand still in a safe and waterproof open area immediately, and contact the customer service immediately.
16. This Product is not recommended to supply power to medical emergency equipment related to personal safety.
17. Electromagnetic fields will inevitably be generated when power products are used, which may affect the normal operation of implantable medical devices or personal medical devices, such as pacemakers, cochlear implants, hearing aids, defibrillators and so on. If these medical devices are used, please consult their manufacturers about restrictions on their use, so as to keep the safe distance between this Product and any implanted medical devices (such as pacemakers, cochlear implants, hearing aids, defibrillators, etc.) when working.
18. When such device is installed, the household electrical wiring can only be modified by trained professionals.
19. Please be sure to use the cable originated from us. When disconnecting the cable, if the plug has threads, please unscrew the nut before disconnecting the cable. Do Not operate this Product with damaged cables.

Scrapping

1. If conditions permit, the battery of this Product is thoroughly discharged and then the Product will be placed in the designated battery recycling bin. This Product contains batteries, which are dangerous chemicals. Do Not dispose of them in ordinary garbage bins. For details, please follow local laws and regulations on battery recycling and disposal.
2. If the battery cannot discharge thoroughly due to fault of this Product, please Do Not dispose of it directly in the battery recycling bin, but contact a professional battery recycling company for further treatment.

EC Declaration of Conformity

We hereby declare that all Smart Lithium Battery Pack products we present conform to 2014/53/EU (RED) Directive, 2011/65/EU (ROHS) and 2015/863/EU (ROHS), and the complete text of this Declaration of Conformity can be downloaded in official website.

APP Download



You can connect this Product, view the information, control the device and personalize settings via App download.



You can download the app user manual by scanning the QR code above.

1. Smart Lithium Battery Pack S1000

1.1 Parameter Specification

S1000 Basic Parameters

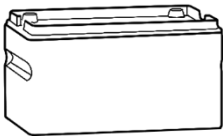
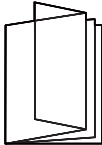
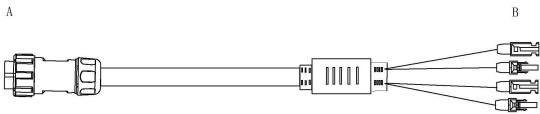
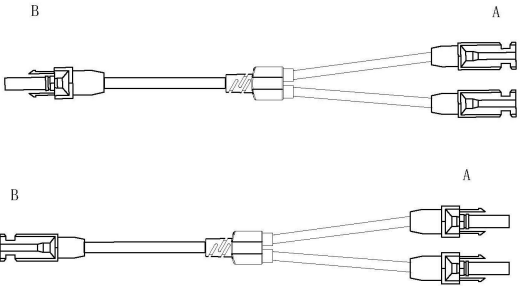
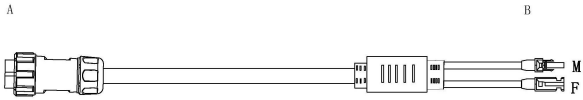
Project Description		Technical Parameters	Remarks
Overall Unit	Capacity	1024Wh	
	Size (LxWxH)	330*210*195 (mm)	Single module
	Weight	11Kg	
	Battery Type	Lithium iron phosphate	
	Number of cycles	≥ 6000	
	Max. input power	1200W	600W*2
	Max. output power	800W	According to EU standards
	PV input voltage range	18-55V	
	Max. input current	15A	Single-circuit
	Range of output voltage	20-50V	
	Maximum number of battery packs that can be connected in parallel	5	
	Maximum scalable capacity	5120Wh	
	IP rate	IP65	
	Charging temperature	0-45°C	
	Discharging temperature	-10-45°C	
Protection	Overcharge, over-discharge, overcurrent, high-temperature, low-temperature and short-circuit	Provided	
Other	WiFi module	Provided	
	Equilibrium mode	Provided	
	Communication	CAN	

Working environment:

Project Description	Technical Parameters	Remarks
Working temperature	-10°C~45°C	Only dischargeable below 0°C
RH	5~95%	No condensation
Altitude	≤4000 m	
Barometric Pressure	70K~106KPa	

1.2 Packing List

In-case List

Smart Lithium Battery Pack S1000	User Manual
	
PV connector (MC4 to aviation plug) 1-to-4 1, 1.5m	Y-connector one for each, 36cm
	
Micro-inverter connector (MC4 to aviation plug) 1-to-2 one for each, 1.5m	
	

1.3 Important Notices

- 1) Please check whether access to the Balcony Solar Storage system is allowed in your located region. You need to obtain official permission from the local governmental authority before installation.
- 2) Please check all accessories before installation.
- 3) Before installing or removing the Smart Lithium Battery Pack, please ensure that the Smart Lithium Battery

Pack be turned off and disconnect the PV panel and the micro inverter.

Note: Once installed, you can choose to download App and connect to network (view information, control the device and personalize settings).

1.4 Product Display

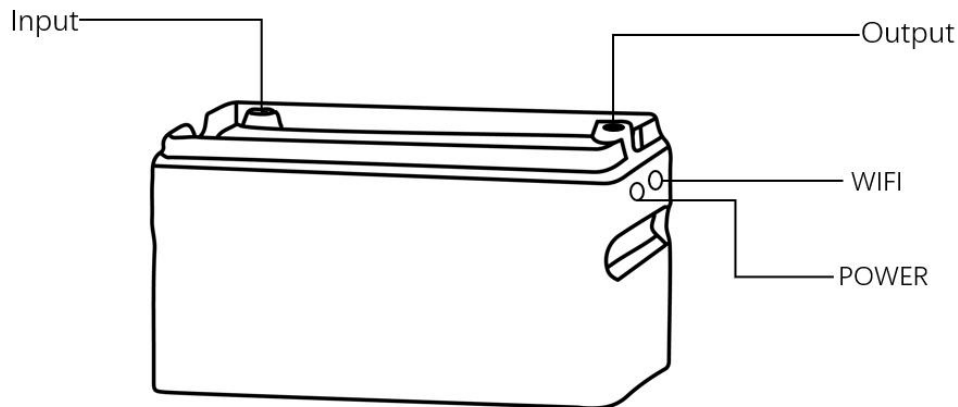


Figure 1-1 Product Display

Power On:

It will be automatically powered on in case of PV input.

In case of no PV input, please press and hold the Power key for approx. 2s till the Power indicator is lit up for start-up (if multi-modules are connected in parallel, please start them up in turn).

Power Off: Please press and hold the Power key for about 5s till the indicator light is OFF for shutdown (if multi-modules are connected in parallel, please shut them down in turn).

Network Connection: Once the Smart Lithium Battery Pack is turned on, please press and hold the WiFi key for about 5s till the WiFi indicator is blinking and then enter the mode of network connection, and open the APP for network connection (if multi-modules are connected in parallel, only one shall be networked once all turned on).

Indicator status:

Multiple modules, if connected in parallel, will be sorted by their SN in the process of power-on self-test and one is selected as the master and others are taken as slaves; if there is one single module, it will be defaulted as the master.

Operating status	Power status		WiFi status		Remarks
Power-On Self-Test	Blinking		Off		The power-on self-test will be completed in approx. 10s.
WiFi Configuration	With no input and output power	Normally ON	Configuring	The master will fast blink (approx. 0.3s) and slaves will go off.	
	With input or output power	Blinking	Configured	The master will go off and then Normally ON approx. 10s later.	
			Configuration Failed	Off	
In Operation	With no input and output power	Normally ON	WiFi connected	The master is Normally ON while slaves go off.	
	With input or output power	Blinking	WiFi unconnected	Off	
Upgrade	Download the upgrade file	The Power Indicator remains in its original state.	WiFi Indicator OFF		
	Upgrading	The Power Indicator Normally ON.	WiFi Indicator OFF		
	Upgraded	The Power Indicator is Normally ON and goes off approx. 5s later.	The WiFi Indicator is Normally ON and goes off approx. 5s later.		If there is input from the Smart Lithium Battery Pack, the device will automatically power on; if no input, it needs to be powered on manually after the upgrade is completed.

Note: For multi-modules working in parallel. When the following conditions occur, please check whether there is poor contact in hardware connection of Smart Lithium Battery Pack.

- 1) 2 or more Power indicators blink;
- 2) 2 or more WiFi indicators are normally ON or blink.

2. Operating Mode 1 - Balcony Solar Storage System

2.1 Recommended System Configuration

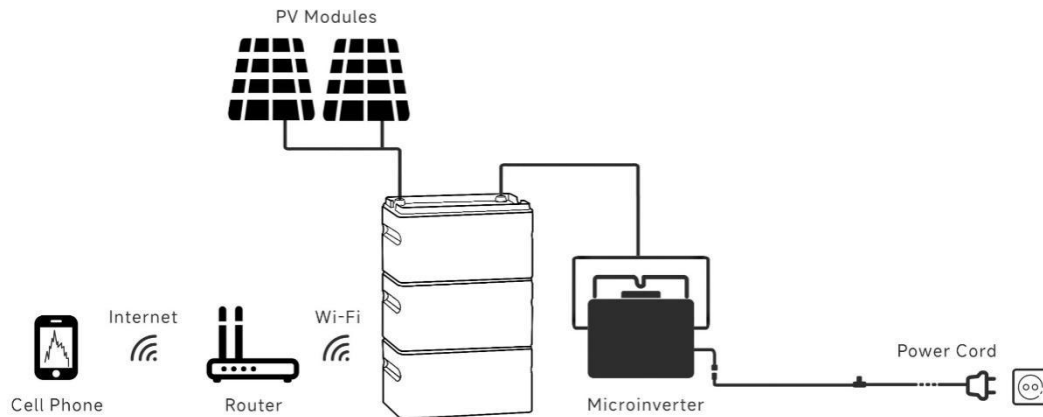


Figure 2-1 Recommended System Configuration Diagram

2.2 Product Installation

The Smart Lithium Battery Pack can expand the capacity of multiple modules in parallel, and at most 5 modules can be connected in parallel.

1) Place the Smart Lithium Battery Pack on a flat ground, and pay attention to the following matters when selecting the installation position:

- a) Avoid direct sunlight.
- b) There is no risk of water accumulation.
- c) Good Wi-Fi network.

2) The Smart Lithium Battery Packs are connected in parallel with PV panel and micro-inverter.

- a) For the bottom Smart Lithium Battery Pack, please remove the protection cap of I/O terminals.

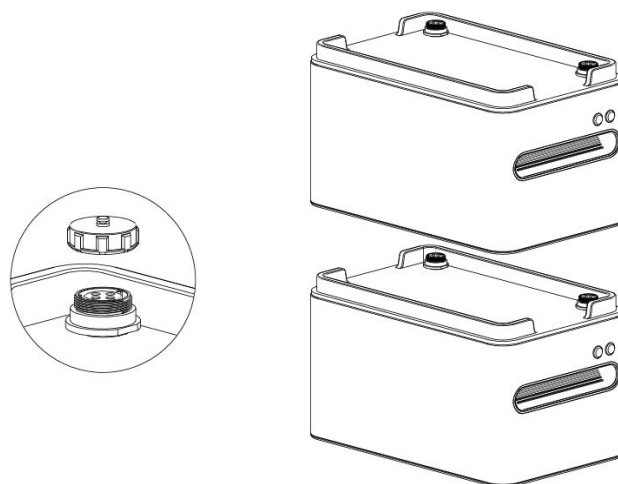


Figure 2-2 Removal of the protective cap of I/O terminals

- b) For other Smart Lithium Battery Packs, please remove the I/O terminals protective cap and the bottom terminal protective cap. Stack them on the lowest Smart Lithium Battery Pack in turn to ensure that the Smart Lithium Battery Packs be aligned and well contacted.

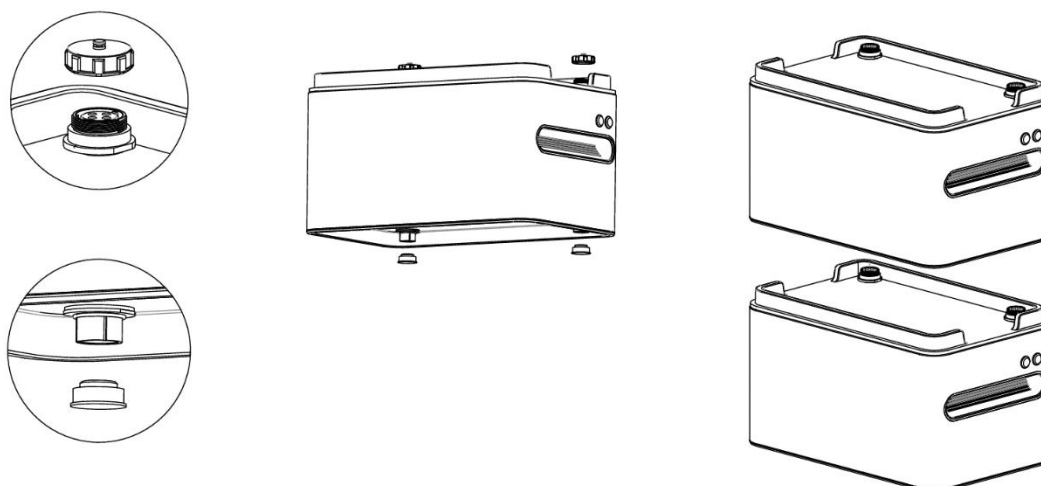


Figure 2-3 Removal of I/O Terminal and Bottom Terminal Protective Cap

- c) For the top Smart Lithium Battery Pack, please wire 1-to-4 PV connector on the input terminal; wire 1-to-2 micro inverter connector on the output terminal and connect to the micro inverter input terminal through 2 Y-connectors.

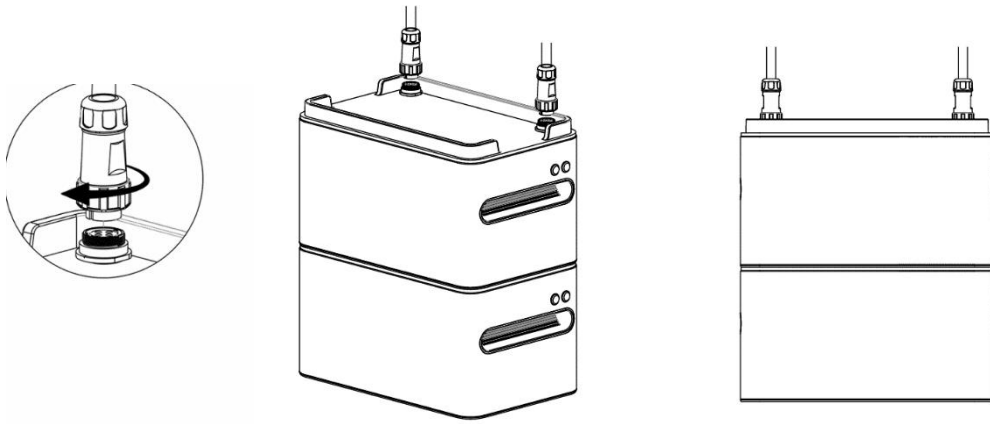


Figure 2-4 Wiring of PV and Micro-Inverter Connectors

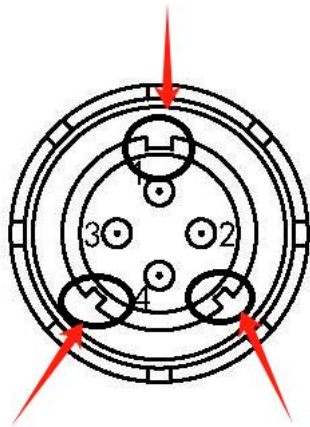


Figure 2-5 Section of PV Connectors and Micro-inverter Connectors

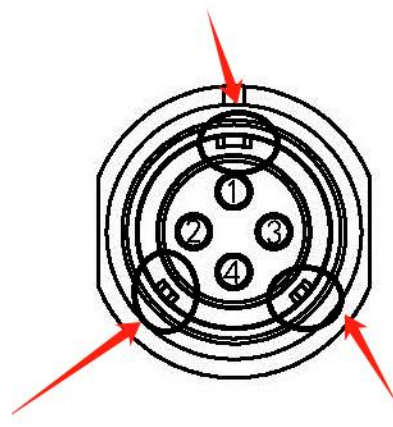


Figure 2-6 Section of I/O Terminals on the Device

To connect the I/O connectors, please insert them into the groove aligned with Pin 1 and then tighten the midlock nut, as shown by the arrow in Figure 2-4. Tighten the midlock nut clockwise and then loosen the midlock nut counterclockwise.

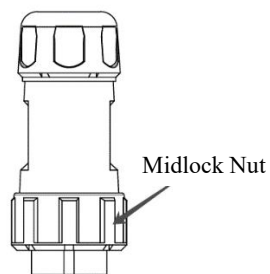


Figure 2-7 Midlock Nut

Note: Please keep the removed protective cap properly for subsequent use.

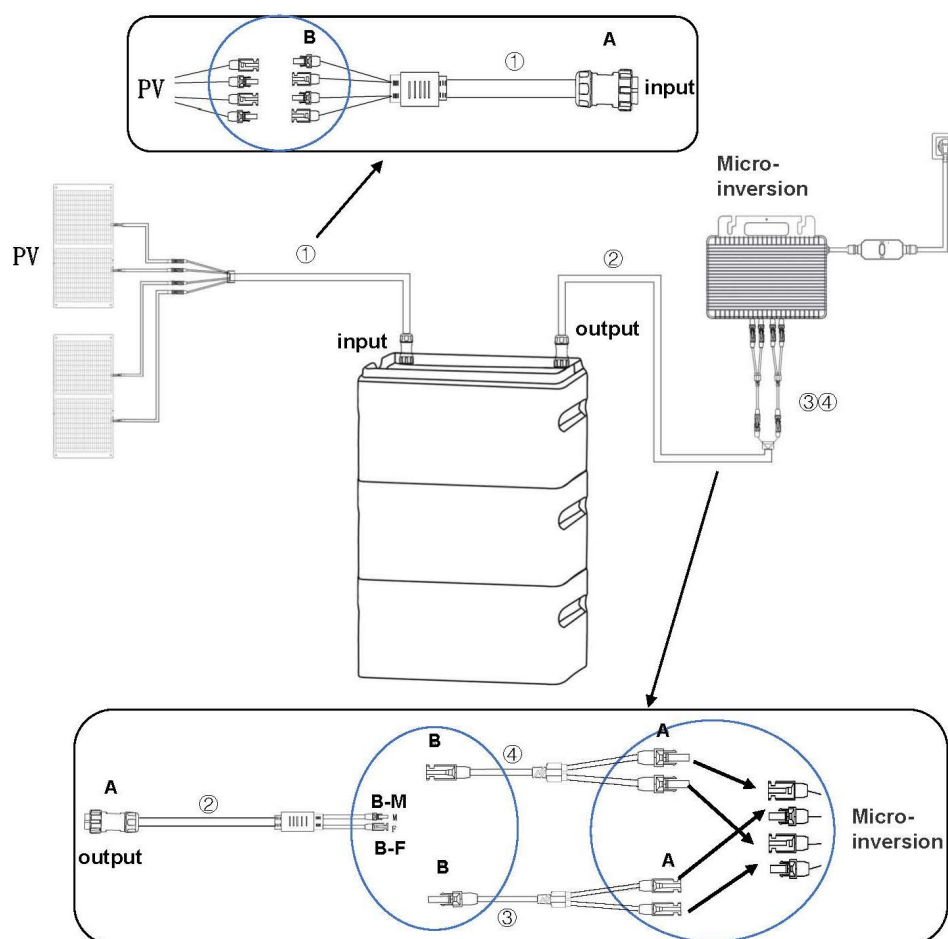
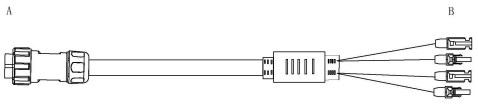
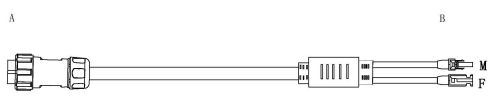
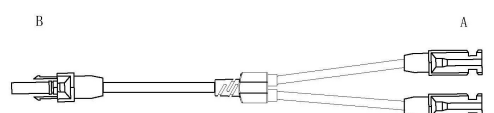
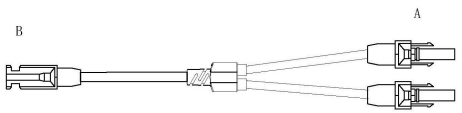


Figure 2-8 System Connection Diagram

Table 1 Wire harness in the above figure

S/N	Name	Cable pattern	Connection position of Terminal A	Connection position of Terminal B
①	PV Connectors	 <p>(Mark Input on the cable)</p>	Input	PV1/PV2
②	Micro-inverter Connectors	 <p>(Mark Output on the cable)</p>	Output	②B-F connect ③B; ②B-M connect ④B
③	Y-connector		Micro-inverter	②B-F
④	Y-connector		Micro-inverter	②B-M

Tips:

- (1) Ensure that the Smart Lithium Battery Pack be turned off before being connected in parallel.
- (2) After the parallel connection of Smart Lithium Battery Packs is completed, connect the micro-inverter first, and then the photovoltaic panel.
- (3) As the plug is of fool-proofing design, please make sure that the direction is correct when connecting. Fasten the midlock nut after connection.
- (4) Since cables connecting the PV panels and micro inverters are different, please refer to the table to connect the cable properly and pay attention to the label on the cable. Reverse connection of PV connector and micro-reverse connector will lead to the failure of Smart Lithium Battery Pack. Please be sure to use connectors originated from us.
- (5) At the site of installation, if the cable is not long enough, please purchase the extension cord from us.
- (6) When the PV panel is connected and in the power generation state, the Smart Lithium Battery Pack will be automatically powered up, so please Do Not press the Power button.
- (7) Do Not touch the metal contacts of terminals with hands or other objects.
- (8) When dismantling the system, please turn off the Smart Lithium Battery Pack, disconnect the PV panels and disconnect the micro-inverters in turn.

2.3 Instructions for Operation

1) Charging

a) PV charging.

- ① Before connecting the PV panel, please confirm that the output open circuit voltage of the PV panel is no higher than 55V;
- ② 600W*2 PV panel charging is supported at most;

b) Genuine charger optional for charging.

2) Discharging

This Product has three discharge modes, namely constant power, automatic operation and Period-based control.

The factory default is constant power mode and the default output is 150W.

a) Constant power mode

Set the power output through APP, within the range of 100W~800W, and the factory default is 150W.

b) Automatic operation mode

Add an intelligent plug through APP, accurately control the output according to the power of intelligent plug for automatic operation.

c) Period-based control mode

Set the corresponding output power of different time ranges through APP.

Note: Please refer to the APP manual for specific settings.

3. Operating Mode 2-Portable Power Station

Note: In Operating Mode 2, customers need to purchase split inverter separately to form a portable power station with Smart Lithium Battery Packs.

3.1 System Configuration

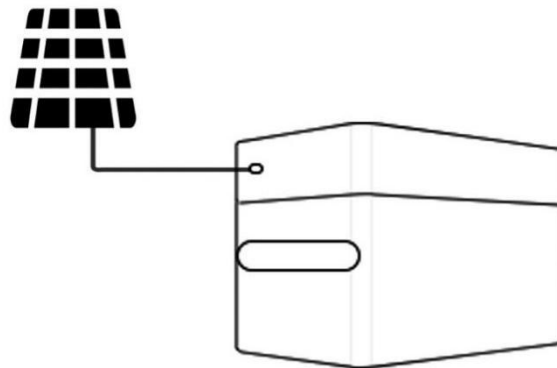


Figure 3-1 System Configuration Diagram of Portable Power Station

Note: PV panels need to be configured by customers themselves.

Item	Parameters
AC output voltage	AC 220~240V
Frequency	50/60Hz
Max. PV input power	600W
AC output power	1000W
Interface	AC Interface, USBA
WiFi	Provided
Size (LxWxH)	330mm*210mm*235mm(1kWh)

3.2 Product Installation

Turn off the intelligent lithium pack and split inverter, keep them not connected with I/O, and align the terminal on the bottom of the split inverter with the I/O interfaces of the intelligent lithium pack and stack them.

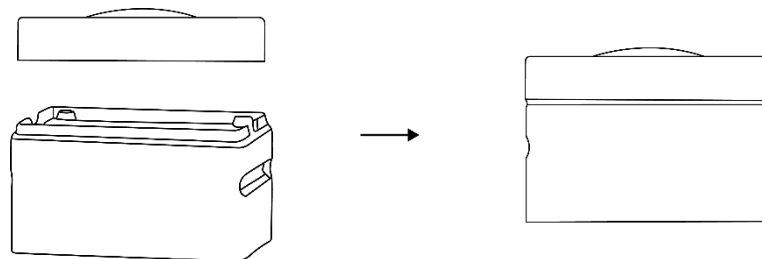


Figure 3-2 Installation Schematic Diagram

There is no shackle between the split inverter and the Smart Lithium Battery Pack, so please carry them separately.

3.3 Instructions for Operation

- 1) The split inverter has AC output interface and USBA interface. The total AC output power is 1000W and USBA has 2 channels, each of which will output 5V/2A. After the Smart Lithium Battery Pack and the split inverter are stacked, please power on the Smart Lithium Battery Pack first for entry to the operating state, and then press down the switch of the split inverter to start up.

- 2) The side of the split inverter has XT60 interface, which can be connected with PV panels to charge the Smart Lithium Battery Pack. The Portable Power Station can support PV input of 600W at most. Please ensure that the output open circuit voltage of PV panel be no higher than 55V.
- 3) The split inverter only supports connection of one Smart Lithium Battery Pack. When replacing the Smart Lithium Battery Pack, it is necessary to turn off the Smart Lithium Battery Pack and split inverter first.

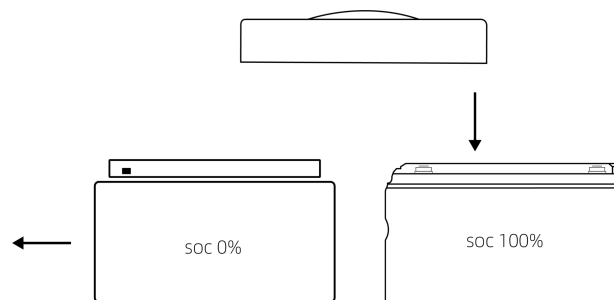


Figure 3-3 Schematic Diagram for Replacement of Battery Pack

- 4) You can choose to purchase the genuine power adapter for charging.

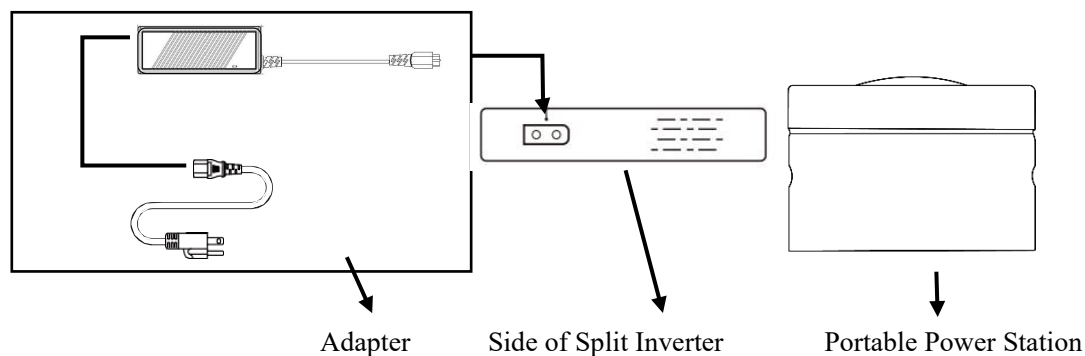


Figure 3-4 Charging Diagram of Power Adapter

Note: The power adapter needs to be purchased separately by customers.

4. Frequently Asked Questions

- 1) How many PV panels can the Smart Lithium Battery Pack be connected with?

The Smart Lithium Battery Pack can be connected with 2 PV panels no higher than 600W, and the open circuit voltage of the PV panels is lower than 55V.

- 2) How to clean the Smart Lithium Battery Pack product?

Since it is placed outside the balcony and exposed to the sun and wind every day, so we will

simply clean it when using. Please wipe with a dry non-frosted cloth.

3) How to use this device safely and what precautions should be taken?

When using the Smart Lithium Battery Pack, please pay attention to the temperature range of the use environment. In the appropriate temperature range, the Smart Lithium Battery Pack will play the greatest role; if working outside the temperature range, the performance of the Smart Lithium Battery Pack will be greatly reduced, and its service life may be shortened.

4) What is the safety performance of the device?

The Smart Lithium Battery Pack has enough safety performance and certification to be used both indoors and outdoors.

5) At what ambient temperature is the device suitable for use?

It is recommended to use it within the range of 0°C~45°C. Too high or too low temperature may affect its charging and discharging efficiency. Only discharging is allowed at -10°C~0°C.

5. Maintenance

1) It is recommended to fully charge the Product after you have received it. For long-term storage, please charge and discharge this Product once every other 3 months.

2) Please store the Product away from water and heat sources.

3) In order to prolong the service life of the battery, please try to use or store this Product at the temperature is 20°C~30°C. For the sake of safety, please Do Not store this Product in any environment above 45°C or below-10°C for a long time.

4) If the power of this Product is seriously insufficient and the idle time is too long, please be sure to charge this Product before reusing.

5) Perform periodic checks to ensure that all connections and components be in good condition. If there are signs of wear or damage, please contact our customer service.

6. User Support

You can contact us for more information in the following ways

Email: support@storcubepower.com

Website: <https://us.storcubepower.com/>
<https://de.storcubepower.com/>

Warranty Card Information	
Name	
Email	
Tel:	
Purchasing Channel	
Purchase Order	
Purchase Time	
Product Model	
Product SN code	

Please fill in the warranty card after receiving the Product and send it to our after-sales mailbox to activate your warranty service.

Warranty Exemption

We do not accept any warranty claim for damages related to the following reasons. Claims related to defects arising from the following factors are not covered by our warranty obligations.

- 1) You can not show your purchase certificate.
- 2) Occurrence of major natural disasters, such as major earthquakes, tsunamis, typhoons, sea waves, floods, locust plagues, storms, etc.; occurrence of major social anomalies, such as war, riots, government intervention, strikes, embargoes, etc.
- 3) Accidental damage or improper use, etc.
- 4) Improper installation, deployment, test, configuration or operation (contrary to the instructions in the installation manual that comes with each product).
- 5) Destroy the anti-tear sticker and disassemble or modify the Product.
- 6) The Product is purchased from an unauthorized distributor/retailer.
- 7) Free Product/Prize/Gift.
- 8) Products that have not been charged and discharged for more than 6 months will not be warranted.