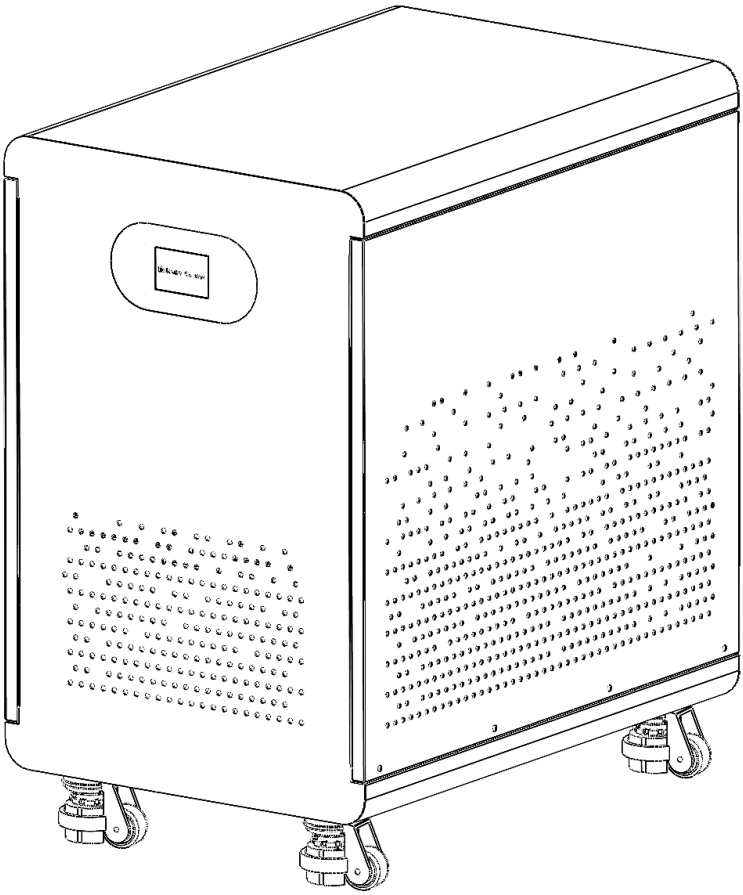
User Manual

51.2V560-942Ah LiFePO4 Battery



1. Productintroduction

Household energy storage products are designed for residential and small and medium-sized energy storage applications. This system integrates three core components: high-quality A-grade LiFePO4 cells, an intelligent battery management system, and a robust and aesthetically pleasing protective casing. It features small size, high energy and high safety. This product features a 3.5-inch touchscreen interface and offers dual connection options: Bluetooth pairing enables real-time parameter monitoring and configuration through a dedicated mobile application, while router connection allows for remote system management via network access. Users can increase energy by adding multiple batteries in parallel to meet the growing power demand.

Battery Type	LiFePO4			
Normal Voltage	51.2V			
Normal Capacity	560Ah	628Ah	840Ah	942Ah
Total Energy	28.67kWh	32.15kWh	43.01kWh	48.23kWh
Max. Charge/Discharge Current	200A BMS : 200A 300A BMS : 300A			
Cycle Life	> 6000 Cycle			
Communication Interface	CAN/RS232/RS485			
Wireless short-range communication	Bluetooth (APP operation)			
Wireless remote communication	Wi-Fi (APP operation)			
Product size	720*435*935mm		1010*435*935mm	
Weight	250KG		350KG	
IP Grade(optional)	IP20			
Inverter	Match all hybrid and off grid inverter brands in the world			
Installation	Floor mounted			
Certificates	CE/RoHS/UN38.3/MSDS/ISO/FCC			

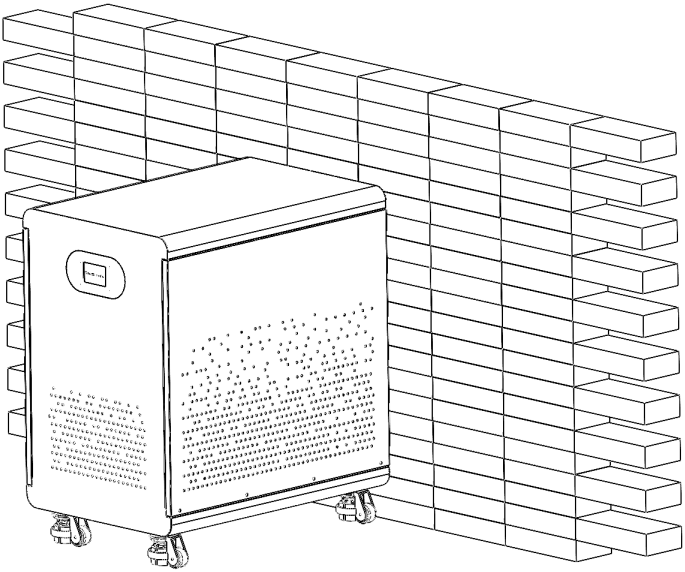
2. Installation Steps

1) Keep a 20cm installation distance between the upper and left sides of the battery.

2) Check whether balance is maintained.

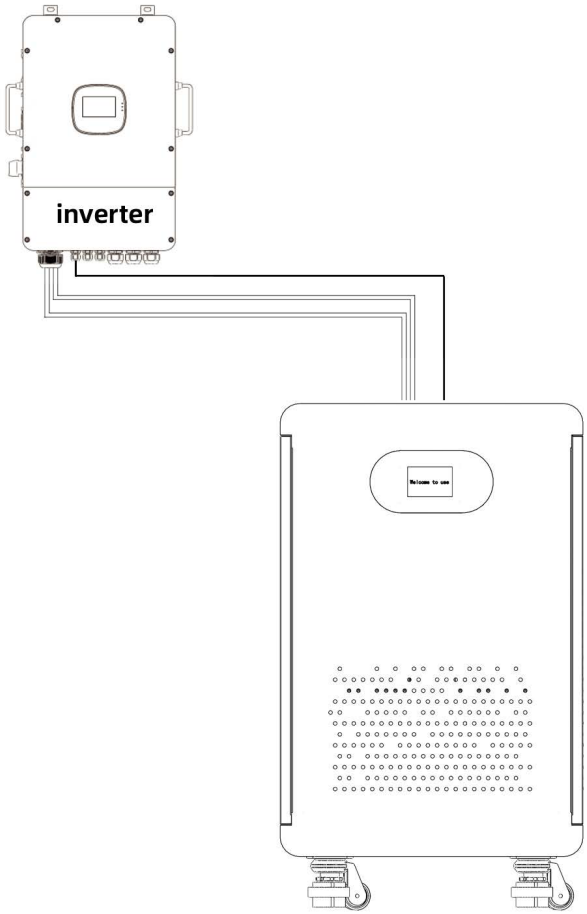
3) After the battery is fixed, please turn the support knob of the bottom moving wheel to fix the moving wheel

Keep installation distance



3. Connection diagram

As the energy storage battery in the energy storage system, this product can be adapted to all hybrid and off-grid inverter brands in the world. Please connect the line between the battery and the inverter correctly when installing. Please do not mistakenly connect the positive and negative terminals.



WARNING：Risk of Fire, explosion, or burns:

1) DO NOT short the battery terminals.
2) DO NOT incinerate, Crush or disassemble.
3) DO NOT reverse connections (polarity)from charger or battery.
4) DO NOT operate the battery beyond published voltage and current.
5) DO NOT operate the battery beyond published temperature limits.

a) Operating Temp Charge 0℃ to 60℃ (32℉ to 140℉)
b) Operating Temp Discharge -30℃ to 60℃ (-22℉ to 140℉)

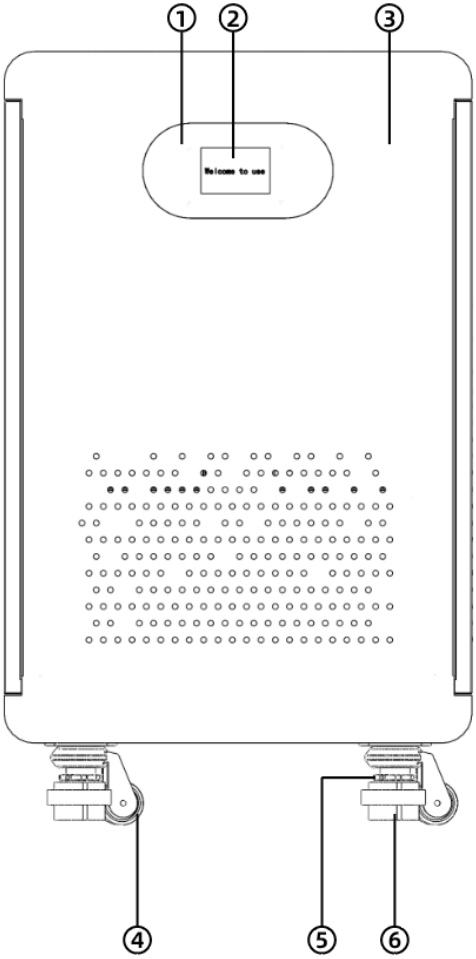
DO NOT expose to temperature above 60℃ to 140℉

4. Product description

This section describes the key position and interface position of the battery. Please install and use it correctly according to the corresponding position.

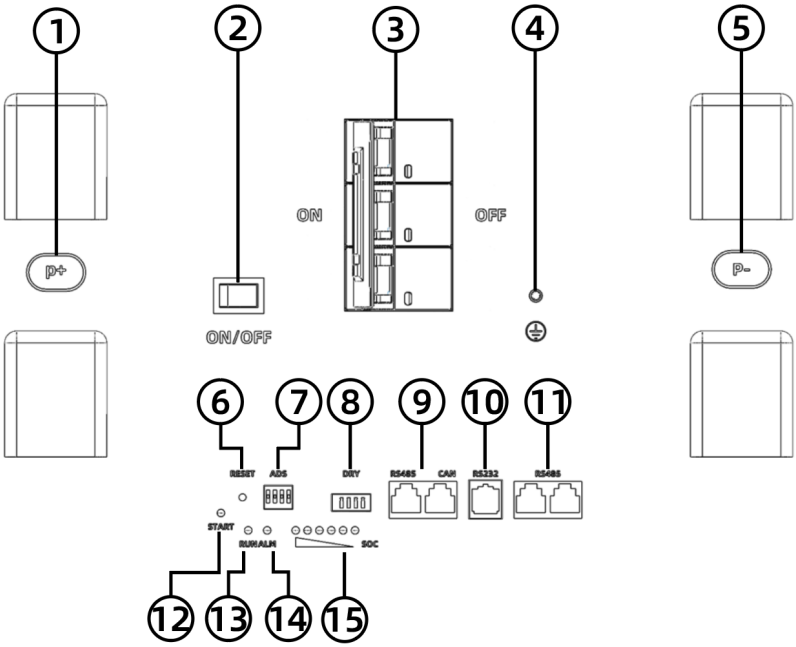
The battery's wheel adopts a movable wheel that can be lifted and fixed. The central plate of the moving wheel can be flipped according to the need to lift the support rod of the moving wheel, and the battery can be flexibly moved and permanently fixed.

4.1. Positive indication



NO.	Specification	NO.	Specification
1	High-transparency cover plate	4	Universal moving casters
2	LED touch screen	5	Fixed lifting toggle switch
3	High-strength panel	6	fixed support feet

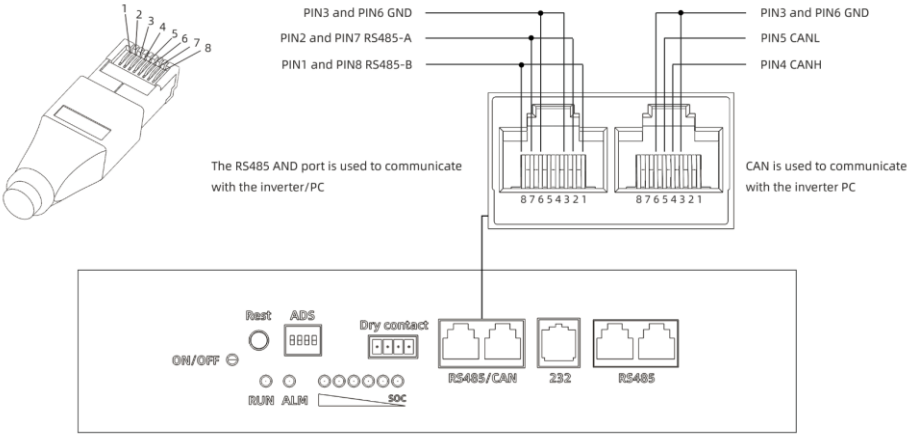
4.2. Reverse indicates



NO.	Specification	NO.	Specification
1	Power P+	2	switch
3	Battery switch	4	Ground wire connection
5	Power P-	6	Reset button
7	Dip switch	8	DRY CONTACT
9	RS485/CAN inverter connection port	10	RS232 PC debugging port
11	RS485 battery parallel communication port	12	Start status light
13	Operation indicator light	14	Alarm light
15	SOC power lamp		

4.3. inverter Communication port Definition

The communication interface connection mode between the host and the inverter is defined. The network cable used to connect the inverter should be matched according to the following definition, and the standard network cable cannot be directly used

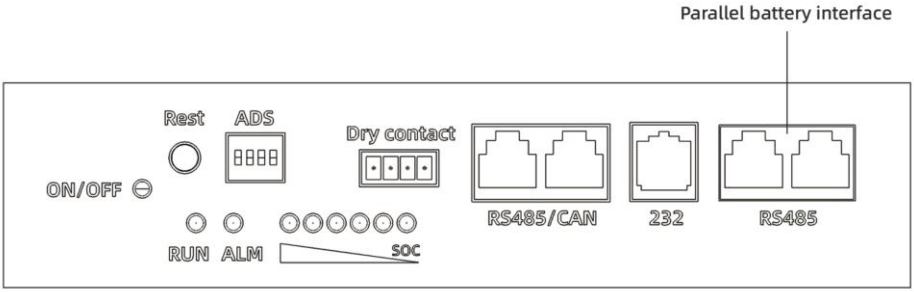


Definition list of ports for connecting the inverter

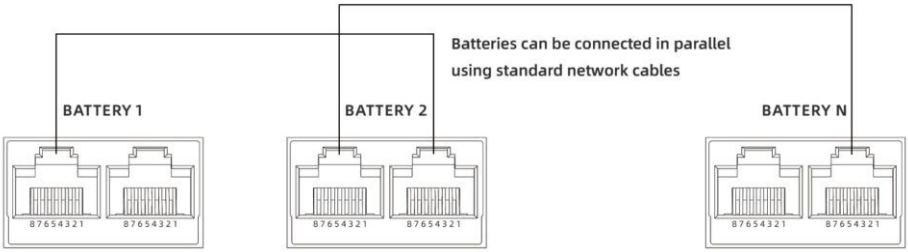
RS485 interface (communication with host computer or inverter)		CAN communication interface (only inverter communication)	
RS485 - Uses 8P8C vertical RJ45 socket		CAN - Uses 8P8C vertical RJ45 socket	
RJ45 pin	definition	RJ45 pin	definition
1/8	RS485-B	4	CAN-H
2/7	RS485-A	5	CAN-L
3/6	GND	3/6	GND
4/5	NC	1/2/7/8	NC

4.4. Battery parallel port address description

Our battery parallel can be directly connected using standard network cable. Connect both ends of the network cable to the parallel ports of parallel batteries.



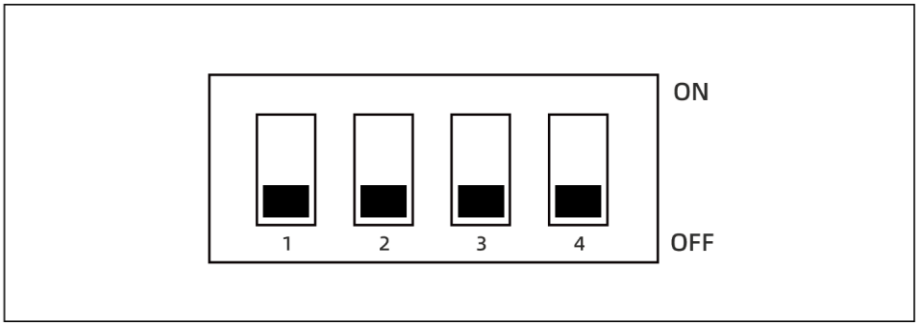
Battery parallel wiring diagram



4.5. ADS Dial Switch

When the battery is in the lithium battery communication state, it is necessary to use the dial switch to set the address for distinguishing in parallel. The setting sequence is shown in the following figure, and up to 15 can be set.

If a battery needs to be connected to the inverter for communication, set the battery address of the inverter to 1.

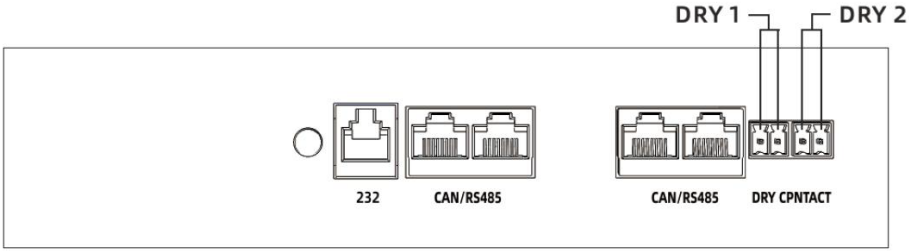


Do not allow two devices with the same address on the same network.

Otherwise, address conflict may occur.

	1	2	3	4
P0	OFF	OFF	OFF	OFF
P1(stand-alone)	ON	OFF	OFF	OFF
P2	OFF	ON	OFF	OFF
P3	ON	ON	OFF	OFF
P4	OFF	OFF	ON	OFF
P5	ON	OFF	ON	OFF
P6	OFF	ON	ON	OFF
P7	ON	ON	ON	OFF
P8	OFF	OFF	OFF	ON
P9	ON	OFF	OFF	ON
P10	OFF	ON	OFF	ON
P11	ON	ON	OFF	ON
P12	OFF	OFF	ON	ON
P13	ON	OFF	ON	ON
P14	OFF	ON	ON	ON
P15	ON	ON	ON	ON

4.6. Dry contact description



Dry contact definition: (Normally open by default)

- DRY1: Normally open When fault protected, the line closed
- DRY2: Normally open. When low battery alarm, the line closes

5. BMS APP usage instructions

5.1. Download and install

Pre-test needs, the APP is placed on the Dandelion platform for easy access, and the official version will be put on the app store.

Depending on the mobile system, select the download link:

- Android portal: https://www.pgyer.com/OsHo
- IOS portal: https://www.pgyer.com/3sbG

Note: For iOS new device testing, you need to obtain the UDID in advance and give it to the developer, otherwise it will not be installed after downloading

The link, can quickly get the UDID:
https://www.pgyer.com/tools/udid?sl=MGpDPO

5.2. APP dynamic permissions

Install the APP, click icon, and start smoothly. First of all, the startup will actively request the user to confirm and authorize the following permissions:

- Camera permission: Remote control scan code to add wifi device
- Location permission: Local control is used to search for nearby Bluetooth devices, and remote control is used to identify current network information
- Device status information: Detects the running status of the device
- Photo and audio: Remote control in the scanning code interface can directly identify the local album

5.3. Control mode

- Local control: that is, BLE Bluetooth communication, direct search for nearby Bluetooth signals, a pair has been connected, control the device, no account login, do not bind records, that is out of the box.
- Remote control: that is, Wi-Fi communication, to achieve the purpose of not being in the same geographical location, but also to control the device, requiring account registration and login, binding records between the account and the device, and completing network distribution operations.

6. Maintenance

This unit describes the daily maintenance information of the battery and the handling scheme of common alarms.

6.1. Alarm description and handling

When the ALM light on the battery control panel is on, it means that the battery has issued an alarm or is protected, please check the cause of the fault through the computer and take appropriate measures or go to the site directly to troubleshoot the problem. Common alarm conditions are shown

Stale	Model	LED	Disarming method
charge	overcurrent protection	ALM	Stop charging, check the settings and limits
	temperature protection	ALM	Stop charging and wait for the temperature to recover
discharge	overcurrent protection	ALM	Stop the discharge and check for any overload phenomenon
	temperature protection	ALM	Stop charging and wait for the temperature to recover

6.2. Faults (phenomena) and solutions

Common faults and solutions are shown

NO	Fault phenomenon	Analyze	Cure
1	Communication with the inverter has failed	Communication port connection error or protocol selection error	Refer to inverter Communication port Definition
2	No DC output	The circuit breaker is not closed, or the voltage is too low	Turn off the circuit breaker or charge the battery
3	The power supply time is too short	Battery capacity is insufficient or not fully charged	Repair or replacement
4	The battery is not	The DC output voltage of	Adjust the DC output voltage of the

	fully charged	the power supply system is below the lowest Low charging voltage	power supply to the battery Charging voltage
5	ALM LED Always bright	Power cord connection is short circuit	Disconnect the power cord and check all the wires
6	Parallel batteries have different SOC values	Normal phenomenon	No operation

6.3. Routine maintenance

Routine maintenance items are shown

project	Method	Maintenance interval
wire	Check whether the power cord has mechanical damage and the terminal insulation sleeve falls off; if this phenomenon, please turn off the machine for repair or replacement. Check the power cord for loosening; if any signs of loosening, tighten it using a standard torque wrench. Check whether the screws of the system are loose or the copper bus changes color; tighten them with the standard torque wrench; if the copper bus changes color, contact the manufacturer for after-sale replacement.	6 months
Communication line	Check whether the parallel communication cable terminal is loose and tighten it again. Check the color of the communication cable for obvious discoloration. If so, please turn it off and replace the communication cable.	Once a year
cleanness	Check the cleanliness of the front battery module and junction box and clean up if there is obvious dust.	6-12months
System running state	Check whether all parameters are normal during system operation (system voltage, current, temperature, etc.).	6 months

	Check whether the main core components of the system are normal, including the system switch, contactor, etc. are normal. Check whether the air inlet and outlet system, air duct is normal, if there is blockage and congestion, you need to clean up Intime.	
Charging and discharge maintenance	Use light load and shallow charge and discharge to check whether the battery SOC and SOH status are normal (read with the upper computer software); it is recommended that the discharge depth and charge and discharge power should not exceed 20% of the rated value.	6 months

7. Notes and Precautions

Please read and comply with the following battery installation and use conditions, incorrect installation and use of the battery may cause personal injury or product damage. injury or product damage.

(1) Do not throw the battery into water. Store the battery in a cool, dry environment.
(2) Do not put the battery into fire or heat the battery to avoid explosion or other dangerous events.
(3) When charging the battery, please choose the specialized charging equipment and follow the correct procedures, do not use unqualified chargers.
(4) Do not reverse the positive and negative terminals and do not connect the battery directly to an AC power source to avoid short-circuiting the battery.
(5) Don't use batteries from different manufacturers or different types together, and don't mix old batteries with new ones.
(6) Do not use the battery when it is hot, bulging, deformed or leaking.
(7) Do not pierce the battery with nails or other sharp objects; do not throw,

step on or strike the battery.

(8) Do not open or attempt to repair the battery. The warranty is void if the battery is repaired or disassembled.

(9) The battery has been half charged before shipment. If the battery is hot, bulging or has an unusual odor, etc., do not use it and report it immediately to the after-sales department.

(10) If you need to store the battery for a long time, please charge and discharge the battery every three months to ensure the best performance of the battery, the best condition for storage is between 50%~60%.

(11) Please use the battery within the temperature range specified in the manual.

(12) The state of charge of the battery before shipment is 50%, please charge the battery before use.

8. Warranty Description

During the valid warranty period of the product, problems such as product damage or function failure caused by non-man-made or intentional damage will enjoy our free repair or replacement service. Customers are required to provide a valid purchase invoice or related product warranty information. If you cannot provide valid proof, we have the right to refuse to provide the relevant services.