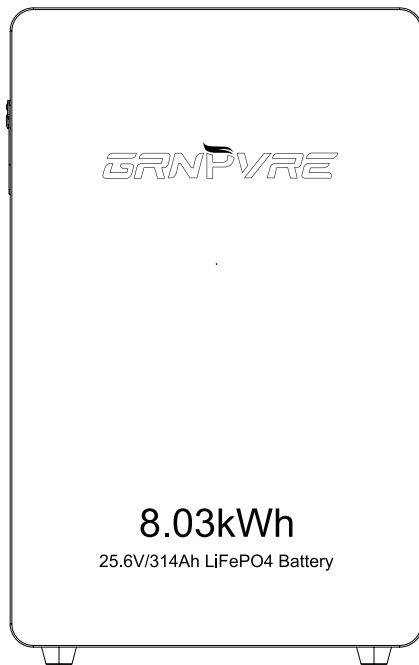


USER MANUAL

Solar Battery Pack

GP-24314S



1. Usage Safety Instructions

Please keep this manual properly for future reference. It details the installation and operation standards for the solar product pack. Before installation or use, be sure to read all instructions and precautions carefully.

1.1 Safety Warnings

There are non-safe voltages inside the solar product pack, and it is strictly prohibited for users to disassemble it privately. In case of equipment failure and need for maintenance, please contact professional maintenance personnel in time.

1.2 Precautions for Use

1. Avoid immersion of the product in water or exposure to moisture.
2. Prohibit charging the product near fire sources and in high-temperature environments, and avoid using or storing the product near heat sources such as heaters.
3. If leakage or abnormal odor is detected, immediately transfer the product to a safe, open area.
4. Use the designated charging cable; if replacement is needed, ensure it matches the original wire gauge.
5. Pay attention to the correct polarity during installation; do not connect in reverse.
6. Do not connect the product directly to wall sockets or car cigarette lighter sockets.
7. Do not place the product in a fire or heat it.
8. Avoid using wires or other metal objects to short-circuit the product terminals. Do not transport or store the product along with necklaces, hairpins, or other metal objects.
9. Do not pierce the product with nails or sharp objects, and do not strike or step on the product.
10. Avoid impacts, throwing, or other mechanical shocks.
11. Do not weld directly onto the product terminals.
12. Do not disassemble the product by any method.
13. Do not mix this product with original products (such as dry cells), or with different capacities, models, or types.
14. If the product has been left unused in storage for more than 3 months, perform recharging.

1.3 Abnormal Situations

1. If leakage or odor is detected, immediately move the product to an open and safe area. If the electrolyte comes into contact with your eyes, do not rub, flush with plenty of water and seek medical attention immediately.
2. If the product is hot, deformed, discolored or has other abnormalities, please stop using it, and if it is charging/discharging, remove the product immediately.
3. If the product smokes or catches fire, please ensure your own safety and quickly move the product to a fireproof and open place (e.g., sand, metal container).

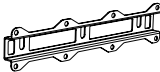
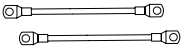
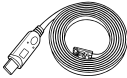
1.4 Environmental Tips

Discharged batteries should be recycled according to local regulations. Do not dispose of them at will.

2 Installation Instructions

2.1 Unpacking and inspection

Inspect the unit before installation. Make sure there is no damage in the package. You should receive the following items in the package:

①		Solar Battery Pack x1 × 1
②		Mounting Bracket × 1
③		L-Shaped Wall Bracket × 2
④		Expansion Screws × 8
⑤		Flathead screws × 3
⑦		Communication Cable × 1
⑧		Positive and Negative Leads × 1
⑨		Host Computer Communication Cable × 1
⑩		User Manual × 1

2.2 Key Points for Installation Location Selection

- It is strictly prohibited to install the product on surfaces made of flammable building materials.
- Avoid installing in harsh environments, and ensure the installation conditions meet the environmental requirements outlined later in this manual.
- The installation surface must be solid and reliable, capable of stably supporting the product's weight to prevent loosening or detachment.
- The installation height should be at eye level to ensure the LCD screen is clearly visible and convenient for daily viewing and operation.

2.3 Installation Tool List

Impact drill		For drilling holes in walls to secure wall-mounted brackets
Flathead screwdriver		Slotted screws for mounting the product's back panel
Tape measure		Used to measure and position installation holes and confirm the installation height

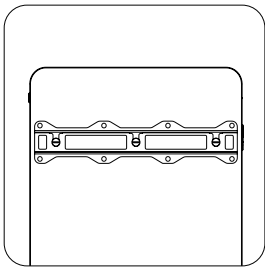
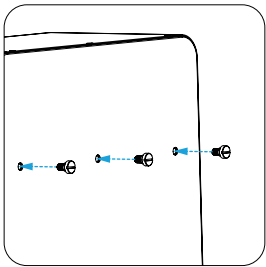
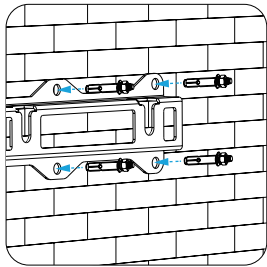
2.4 Wall-Mount Installation Instructions

Step 1: Securing the Wall Mount Bracket: Use the provided anchor bolts to firmly secure the wall mount bracket to the wall, ensuring the bracket is level and stable without any looseness.

Step 2: Installing the Backplate Screws: Take the three provided flathead screws and tighten them into the corresponding pre-drilled screw holes on the back of the product.

Step 3: Mounting the Product: Align the three screws installed on the back of the product with the three U-shaped slots on the wall mount bracket. Insert the screws into the slots from the wider top section. Once properly positioned and adjusted, confirm the product is securely fixed to complete the installation.

Note: Make sure the power switch is in the "ON" position, then press the button to turn on the product; the product can then be used normally.



**Warning:**

- Unplug the device from the power source before installation.

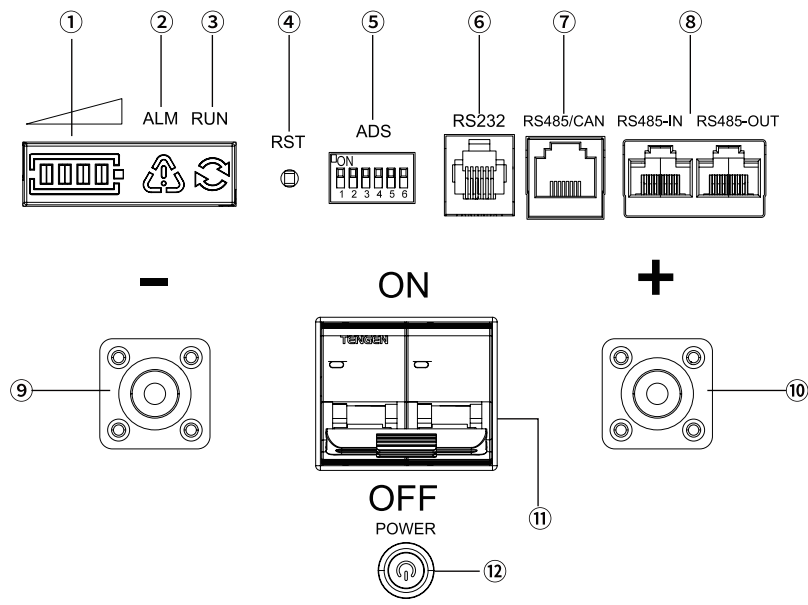
**Safety warning:**

- When drilling with a hammer drill, always wear safety goggles and a dust mask to prevent eye and respiratory injuries from flying debris. Before drilling, make sure there are no electrical wires, water pipes, or other conduits in the wall to avoid potential hazards.
- Proceed with caution when installing the product to prevent damage caused by impact. After inserting the product into the mounts, check repeatedly to ensure it is securely fastened to prevent the product from falling, which could result in equipment damage or personal injury.

3. Specification

Total Energy	8.03 kWh
Internal Resistance	≤6.9mΩ
Single Battery Capacity	314Ah
Nominal Operating Voltage	25.6V
Charging Method	Constant Current & Constant Voltage Charging (CC&CV)
Discharging Method	Constant Current Discharging
Standard Discharging Profile	At 20°C ±5°C, discharge with 0.2C constant current to 44.8V.
Continuous Charging Current	150A
Continuous Discharging Current	150A
Charge Cut-off Voltage	29.2V
Discharge Cut-off Voltage	21.6V
Charge Cut-off Current	160A
Discharge Cut-off Current	160A
Communication Protocols	RS485, CAN
Operating Temperature	Discharge Temperature: -20°C to 60°C Charge Temperature: 0°C to 60°C Storage Temperature (Recommended): 10°C to 30°C
Storage Temperature	≤1 month: -5°C to +40°C ≤3 months: -5°C to +35°C ≤6 months: 0°C to +35°C
Cycle Life	≥8000 Cycle , 80% SOH 25°C ≥3000 Cycle , 70% EOL 45°C
Protection Level	IP20
Communication Protocols	RS485, CAN
Dimensions (L×W×H)	355×260×565 mm
Weight	≤61 kg

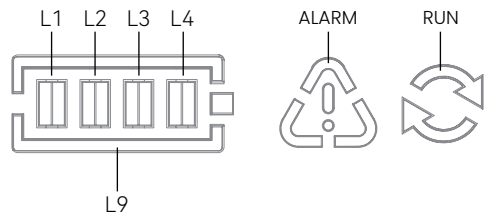
4. Function Introduction



No.	Functionality	Descriptive
①	Battery indicator	Battery level indication
②	Alarm Indicator	Alarms
③	Operation Indicator	Operational status
④	Reset switch	Reboot or shutdown when pressed
⑤	DIP Address	Parallel or communication address selection
⑥	RS232	For upper computer
⑦	RS485/ CAN	For connecting inverters
⑧	RS485-1&RS485-2	for upper computer or battery parallel
⑨	Battery Negative	Battery negative
⑩	Battery Positive	Battery Positive
⑪	Air switch	Disconnect input and output
⑫	Mains Switch	Control switch

4.1 Description of Buzzer Action

Table 1 LED Indicator Description



System State	Event	L9 (Green)	RUN (Red)	ALARM (Green)	L4 (Green)	L3 (Green)	L2 (Green)	L1 (Green)	Description
Power Off	Sleep	OFF	OFF	OFF	OFF	OFF	OFF	OFF	All off
Standby	Normal	OFF	Flash1	OFF	See Table 2				/
	Warning	OFF	Flash1	Flash3					
Charging	Normal	OFF	ON	OFF	See Table 2				Overcharge alarm, ALM does not flash
	Warning	OFF	ON	Flash3					
	Overvoltage Protection	OFF	ON	OFF	ON	ON	ON	ON	
	Overtemperature / Overcurrent	OFF	OFF	ON	OFF	OFF	OFF	OFF	
Discharging	Normal	OFF	Flash3	OFF	See Table 2				/
	Warning	OFF	Flash3	Flash3					
	Undervoltage Protection	OFF	Flash2	OFF	OFF	OFF	OFF	OFF	
	Overcurrent / Overtemperature	OFF	OFF	ON	OFF	OFF	OFF	OFF	
Fault State	Cell Disconnection / Temperature Disconnection / AFE Sampling Fault / Discharge MOS Fault	ON	OFF	ON	OFF	OFF	OFF	OFF	Stop charging and discharging

State		Charging				Discharge			
LED		LED1 (Green)	LED2 (Green)	LED3 (Green)	LED4 (Green)	LED1 (Green)	LED2 (Green)	LED3 (Green)	LED4 (Green)
SOC(%)	0~25%	Flash2	OFF	OFF	OFF	ON	OFF	OFF	OFF
	25~50%	ON	Flash2	OFF	OFF	ON	ON	OFF	OFF
	50~75%	ON	ON	Flash2	OFF	ON	ON	ON	OFF
	75~100%	ON	ON	ON	Flash2	ON	ON	ON	ON
RUN (Green)		ON				Flash 3			

Table 3 LED flash description

Flash Mode	ON Duration	OFF Duration
Flash1	0.25S	3.75S
Flash2	0.5S	0.5S
Flash3	0.5S	1.5S

4.2 Mains Switch Instructions

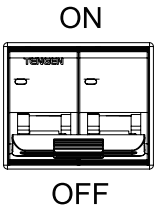
Corresponding icon:



- When the BMS is in hibernation state, after turning off the main switch, the protection board is energized, and the LEDs are lit sequentially starting from “LED1” for 0.5 seconds.
- When BMS is active, turn off the main switch and wait for 1S~3S, then the system will enter the power-off state.

4.3 Air Switch Instructions

Corresponding icon:



- It will automatically trip and cut off power when the loop current exceeds the rated value, to protect wires and equipment from damage caused by overcurrent. It can be manually turned ON/OFF for normal power control.

4.4 Reset Switch Description

Corresponding icon:

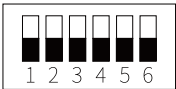
RESET



- When the BMS is in sleep mode, press the switch (1s) to turn it off, and the protection board is activated. The LED indicator will light up for 0.5 seconds.
- When the BMS is active, press the switch (3 to 6 seconds), and the LED indicator will light up from the minimum power indicator to maximum power indicator for 0.5 seconds. After turning off, the system will enter sleep mode.
- When the BMS is active, press the button (6–10 seconds) and release to reset the board. The LED indicator will reflect the current power display.

4.5 Dip Switch

ADS



ON
OFF

When connecting battery packs in parallel, use the DIP switches on the BMS to set the addresses so that different packs can be distinguished. The maximum number of units that can be connected in parallel is 15. Addresses 5 and 6 are reserved and have no function; it is recommended that they be set to “off.”

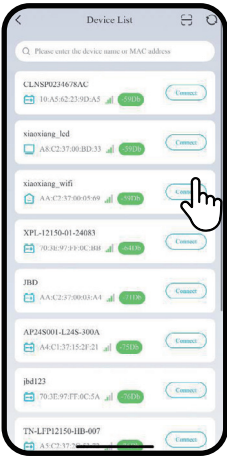
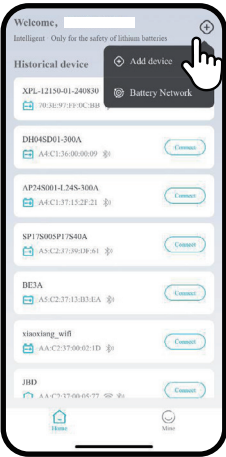
Address Code (Binary/Decimal)	Switch 1	Switch 2	Switch 3	Switch 4	PACK Address
0000 (0)	OFF	OFF	OFF	OFF	Auto-addressing
0001 (1)	ON	OFF	OFF	OFF	Set as PACK1 (Master)
0010 (2)	OFF	ON	OFF	OFF	Set as PACK2
0011 (3)	ON	ON	OFF	OFF	Set as PACK3
0100 (4)	OFF	OFF	ON	OFF	Set as PACK4
0101 (5)	ON	OFF	ON	OFF	Set as PACK5
0110 (6)	OFF	ON	ON	OFF	Set as PACK6
0111 (7)	ON	ON	ON	OFF	Set as PACK7
1000 (8)	OFF	OFF	OFF	ON	Set as PACK8
1001 (9)	ON	OFF	OFF	ON	Set as PACK9
1010 (10)	OFF	ON	OFF	ON	Set as PACK10
1011 (11)	ON	ON	OFF	ON	Set as PACK11
1100 (12)	OFF	OFF	ON	ON	Set as PACK12
1101 (13)	ON	OFF	ON	ON	Set as PACK13
1110 (14)	OFF	ON	ON	ON	Set as PACK14
1111 (15)	ON	ON	ON	ON	Set as PACK15

4.6 Bluetooth Function

1. Download the APP and register your account.

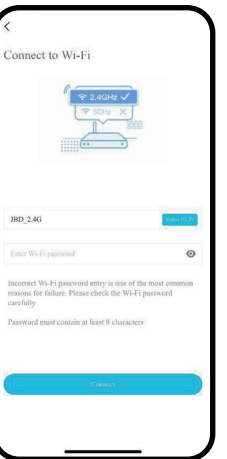
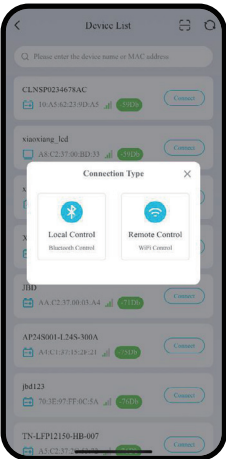


2. Find the Bluetooth broadcast corresponding to the protection board's SN in the device list, tap it, and select the Bluetooth control method.



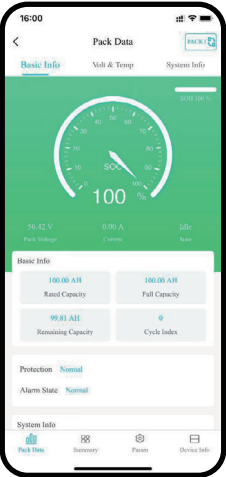
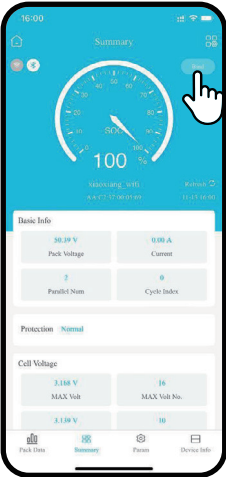
STEP 1
Click to add a device

STEP 2
Select home storage device - connection



STEP 3
Select Bluetooth or Wi-Fi connection

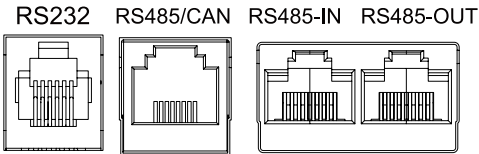
STEP 4
Wi-Fi network configuration



STEP 5
Bind device: View comprehensive and PACK data, and determine whether you have the permission to modify parameters based on the terminal account permissions.

4.6 Communication Functions

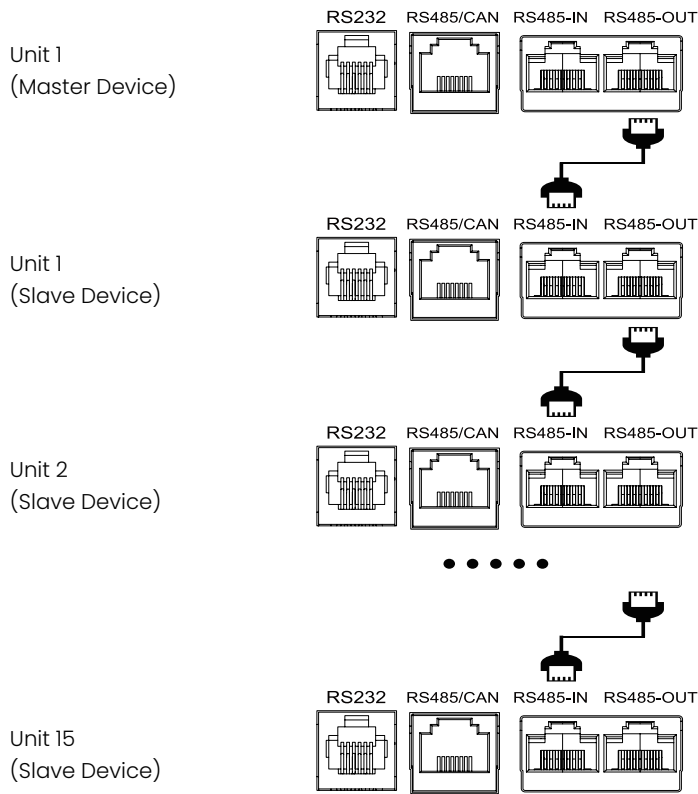
Interface Description:



Communication Interface Definition						
Interface	RS232		CAN1		RS485-IN RS485-OUT	
Function Description	Connect to Host Computer		Connect to Host Computer or Inverter		Parallel Communication × 2	
Pin Definition	PIN	Description	PIN	Description	PIN	Description
	1, 2, 6	NC (No Connection)	1, 8	RS485-B1	1, 8	RS485-B2
	3	TX (Transmit)	2, 7	RS485-A1	2, 7	RS485-A2
	4	RX (Receive)	4	CANH1	4, 5	NC (No Connection)
	5	VSS (Ground)	5	CANL1	3	IN(L)/OUT(R)
	—	—	3, 6	VSS (Ground)	6	VSS (Ground)

4.7 Parallel Wiring Instructions

Interface Illustration:



4.8 Sleep Mode Function

When any of the following conditions is met, the system enters low-power or power-off mode, with the charge/discharge MOSFETs turned off:

1. If the minimum cell voltage is lower than the undervoltage protection threshold minus 50mV for 60 consecutive seconds, or if the undervoltage protection is triggered and not recovered within 60 seconds, the protection board enters power-off mode with μA -level power consumption (sleep state). Sleep mode can be exited by charging or pressing the button.
2. When the user presses the button for 3~6 seconds, all LED indicators will display the current SOC, then turn off sequentially. After releasing the button, the system enters sleep mode. The system can be woken up by charging, communication, or pressing the button.
3. The system enters power-off mode 1~3 seconds after the self-locking switch is opened.

5. Warranty Description

Please read the instructions carefully and keep them in a safe place.

1. This product will be repaired if it malfunctions during the warranty period for normal use in accordance with the operating instructions. The parts replaced during the warranty period are the property of our company.
2. For replacement or warranty, please send this warranty card together with the product.
3. No free repairs will be made during the warranty period if any of the following conditions apply.
 - a. Damage caused by failure to comply with the requirements of the instruction manual for use, maintenance and repair, or the use of non-original parts.
 - b. Failure or damage caused by improper storage and custody (product battery failure due to not recharging the product for a long period of time);
 - c. Failure or damage caused by the use of power supply equipment and load rated equipment not within the specified voltage range.
 - d. Failure or damage caused by private repair, dismantling or modification.
 - e. Damage to the surface coating and exterior is not covered by the warranty.
 - f. Product outer packaging and product accessories are not covered by the warranty.
 - g. Torn, altered or unrecognizable product labels, seals and serial numbers (SN).
4. Failure or damage due to force majeure (force majeure refers to an objective event that cannot be foreseen, avoided or overcome.
This includes natural disasters such as floods, fires, explosions, lightning, earthquakes and storms, as well as social events such as wars and disturbances).
5. This manual is for use only in (this sales area), the final interpretation right belongs to the company.
6. Please keep this manual in a safe place as it will not be distributed separately to users.
7. If the name of the distributor is not written or stamped, ask the distributor from whom you purchased the product for proof of the date of purchase and the name of the distributor, and issue a receipt to the distributor. If you do not have such proof, please contact your dealer or the company from which you purchased the product. If you purchased the product from our online store, please be sure to provide proof of the date of purchase, such as an invoice, order number, or a screen shot of your order history.

6. Reimbursable Service Warranty

Because the product does not meet the warranty conditions need to be charged, the company will be based on parts and labor costs to calculate the appropriate repair costs, and put forward a repair quote to you, after obtaining your consent and payment of the cost to provide repair services for your product.

WARRANTY CARD

*This card is a product warranty certificate,
please be sure to keep it properly.*

Product Name:

Manufacturing Number:

Purchasing Date:

Dealer Name:

Dealer Address:

Customer Name:

Customer Address:

Customer Phone Number:

Customer Email:
