

Start from life to help the
world save energy and reduce emissions



Wall-mounted energy storage battery
product instruction manual

Important safety instructions

Please keep this manual for future reference.

This manual contains all safety, installation and operation instructions for series Wall-mounted energy storage batteries.

Please read all instructions and precautions in the manual carefully before installation and use.

1. There is an unsafe voltage inside the Wall-mounted energy storage battery. In order to avoid personal injury, do not disassemble it by yourself. If you need maintenance, contact our professional maintenance team.
2. Do not install energy storage batteries in places accessible to children.
3. Do not install energy storage batteries in harsh environments such as damp, greasy, flammable and explosive, or large amounts of dust.
4. Do not open the container when the energy storage battery is working.
5. It is recommended to install a suitable safety or circuit breaker on the outside.
6. After installation, check whether all line connections are tight to avoid the danger of heat accumulation due to virtual connection.
7. Wall-mounted energy storage battery: use DC power to charge it when charging, do not connect with other input AC power to avoid damage.

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9. Product warranty record card

Dear users:

Hello! Thank you very much for purchasing our products, in order to better serve you, please read carefully after purchasing the product, fill in and keep this warranty card for free in addition to your worries, the company hereby makes a warranty service commitment, and provides standardized after-sales service accordingly.

The following problems are not covered by the warranty:

1. Damage caused by human causes or other natural disasters;
2. Due to the wrong operation, installation or use of non-product use of the environment caused by failure;
3. Damage caused by unauthorized dismantling and modification;

Contact person: _____ ID: _____

Contact number: _____ Fax: _____

Date of purchase: _____

Address: _____

Maintenance record			
Delivery date	Maintenance content	Maintenance person	Remark

PROTOCOL	SYSTEM
PACE	PACK SN
PACE MODBUS	LANGUAGE SELECT
PYLON	
GROWATT	
VOLTRONIC	
LUXPOWER	
SRNE	
SCHNEIDER	
VICTRON	
SOROTEC	
SMA	
GOODWE	
MUST	
GINLONG	
SENERGY	
MEGAREVO	
FELICITY	

5. Sleep or Shut Down State

Normally, if you don't press any buttons on the screen for a minute, the system will go to sleep or shut down state. But don't worry, if it's asleep or off, just tap anywhere on the screen, and it'll wake up, taking you right back to the main screen.

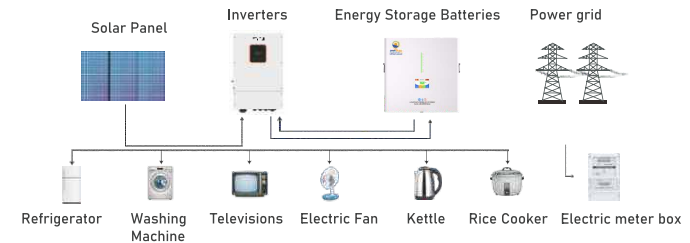
8. Parameter Table

Product Model	G-5000A 51.2V 100Ah	Nominal Voltage	51.2V
Rated Capacity	100Ah	Nominal Energy	5.12KWH
Charge Voltage	58.4V	Standard Charging Current	50A
Max Charging Current	100A	Max Discharge Current	105A(3S)
Discharge Cut-off Voltage	40V	Operating Temp Charge	5-45°C
Operating Temp Discharge	-20~60°C	Communication Mode	RS485/CAN
Working Humidity	65+20%HR	Working Altitude	≤2000m
IP Grade	IP21	Size	445*455*181mm

1. Basic information

■ Product overview

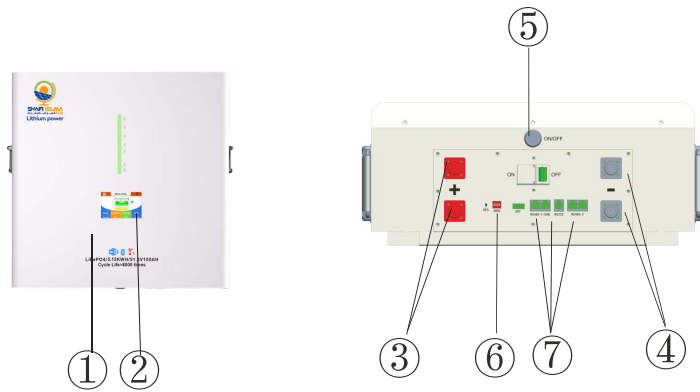
Series energy storage batteries are mainly used in the field of household power storage, but also suitable for RV, household energy storage, temporary buildings and other internal energy storage, using high-performance, long-life lithium iron phosphate battery as the basic energy storage unit, while combining advanced lithium ion battery management system, industrial design of household products and other technologies. Ensure high reliability and industrial standards. The series energy storage battery covers the energy requirements of a single machine from 5.0KWH with a rated output voltage of 48VDC. The series products have the function of wall mounting and can support the function of external parallel use, which greatly improves the convenience of use. The series energy storage battery improves the consistency of the internal temperature field of the product, prolongs the service life and enables the product to continue high current output through a scientific and reasonable active heat dissipation method.



peculiarity

- ① The external LCD screen is used to monitor the data and running status of the energy storage battery in real time.
- ② The battery adopts high-performance lithium iron phosphate battery with high safety performance and long service life;
- ③ The external weak current switch reduces the power consumption of the product and improves the safety of transportation and storage.
- ④ It has RS232/RS485/CAN communication function, which can facilitate data communication with the equipment with communication;
- ⑤ Remote data monitoring and corresponding control can be carried out by external wireless module;
- ⑥ Energy storage battery with foot pad and wall hanging mounting bracket, can meet the installation of different places;
- ⑦ With a number of protection functions, all-round protection of the safety of the power supply;
- ⑧ Stable output, can be connected to the external voltage range of different nature of the load;
- ⑨ Supports up to 15 independent modules in parallel;

2. Functional appearance



①	silver grey	⑤	On-off button
②	LCD display	⑥	ADDS
③	Positive port	⑦	Communication port
④	Negative port		

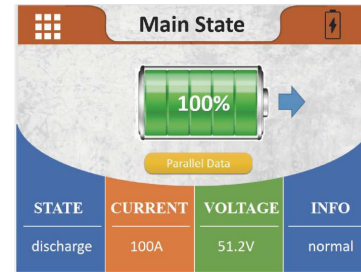
NOTICE:

In order to maintain the best and long-term performance, it is recommended that the following items be inspected twice a year.

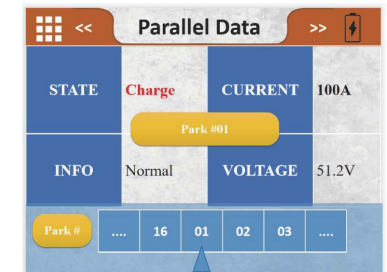
1. Ensure that the surrounding air flow is not blocked, and remove any dirt and debris from the heat dissipation hole.
2. Check whether all exposed conductors are aged or damaged, and replace or maintain them if necessary.
3. If you do not use it for a long time, it is recommended to charge it every three months.

Electric shock danger! Before performing the preceding operations, ensure that the power supply is disconnected, and then perform corresponding checks and operations.

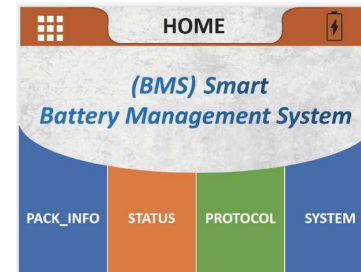
7. LCD Screen Display



1. This is the Main State interface



2. This is the Parallel Data interface



3. This is the Home interface

4. Key Description

Main State Page

Total SOC
Current
Voltage
Warranty
Parallel data

HOME

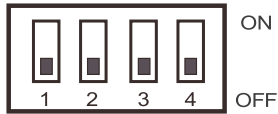
PACK Info

Pack V
Im
Temperature
Cell Voltage
Cell Capacity

BMS Status

Packs status
Protect
Warning
Fault

Mailing address selection instructions



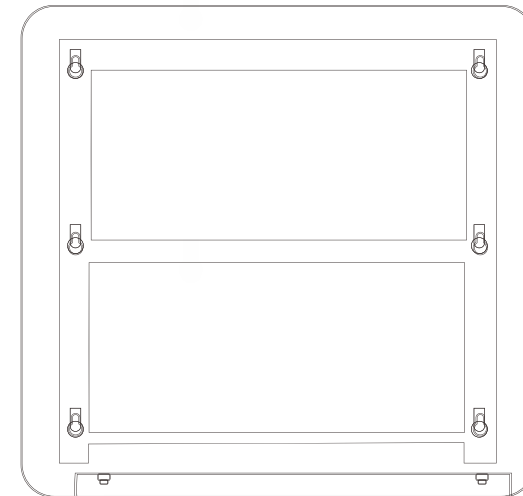
Address	Code switch position				Illustrate
	1#	2#	3#	4#	
0	OFF	OFF	OFF	OFF	Stand-alone use, no cascade
1	ON	OFF	OFF	OFF	Set to Pack 1 (Host)
2	OFF	ON	OFF	OFF	Set to Pack 2
3	ON	ON	OFF	OFF	Set to Pack 3
4	OFF	OFF	ON	OFF	Set to Pack 4
5	ON	OFF	ON	OFF	Set to Pack 5
6	OFF	ON	ON	OFF	Set to Pack 6
7	ON	ON	ON	OFF	Set to Pack 7
8	OFF	OFF	OFF	ON	Set to Pack 8
9	ON	OFF	OFF	ON	Set to Pack 9
10	OFF	ON	OFF	ON	Set to Pack 10
11	ON	ON	OFF	ON	Set to Pack 11
12	OFF	OFF	ON	ON	Set to Pack 12
13	ON	OFF	ON	ON	Set to Pack 13
14	OFF	ON	ON	ON	Set to Pack 14
15	ON	ON	ON	ON	Set to Pack 15

3. Installation process

As shown in the picture:

After fixing the M8 expansion screws on the wall, align them with the upper two holes (② and ③) and hang them up

1. Leave a certain space around the installation for heat dissipation.
2. Avoid direct sunlight and rain infiltration during outdoor installation, which may cause damage.
3. Do not place metal objects nearby to prevent short circuit.
4. The virtual connection point and corroded wire may cause great heat, melt the insulation layer, burn the surrounding materials and even cause fire, so it is necessary to ensure that the connector is tightened, and the wire is best fixed with cable ties to avoid shaking and causing the connector to loose during mobile application.
5. After the power switch is turned off, the energy storage chassis still has high voltage. Do not open or touch the internal components.
6. Do not reverse connect the charge and discharge end of this product, otherwise it is easy to damage the equipment, or unpredictable risks occur.
7. When installing wall hanging, first of all, ensure the bearing capacity of the wall, check whether the screws are firmly installed to avoid unnecessary dangers.
8. If any injury occurs during installation or use, please seek medical attention.





Warning: Danger of explosion! In order to avoid accidents, do not reverse the charge and discharge port, as well as short circuit, and can not be installed in the closed ring; In the territory, there must be rainproof and moisture-proof devices when outdoor installation;

Attention!! When using a single battery, it is recommended to use an inverter below 5KW or other loads below 5KW;

Attention!! Before making the final DC connection, ensure that the battery switch/DC circuit breaker is off, ensure that the positive electrode (+) must be connected to the positive electrode (+), and the negative electrode (-) must be connected to the negative electrode (-)

■ Installation and connection

Installation and connection must comply with national and local electrical code requirements.

Select the corresponding or larger wire according to the use of current, so as not to bring unnecessary trouble when using.

Determine the installation position, and ensure that the left and right air vents of the energy storage system leave at least 200mm space to ensure natural convection heat dissipation.

■ Recommended external wiring diameter and switch selection

Model number	Recommended outer wiring diameter	Continuous system current	Circuit breaker/circuit breaker recommended
5KWh	6AWG	100A	100A

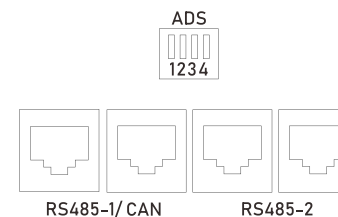
Note: The wire diameter is for reference only, if the distance between the load and the battery is relatively far, the use of larger wire can reduce the voltage drop to improve

System performance. The above cable diameters and circuit breakers are only recommended. Select an appropriate cable diameter and circuit breaker based on the actual situation.

6. BMS communication and setup

When the load (such as: inverter) needs to communicate with the battery, in order to establish normal communication with the load, the BMS needs to perform the following Settings, each brand The RS485 communication protocols of inverters are different, but there are several RS485 communication protocols inside the inverter to match the battery, which can be used, Select the communication protocol code directly in the inverter to match, if you have other questions, please consult the supplier.

Connect the RS485/CAN at the battery end to the inverter communication port. Ensure that the battery BMS port corresponds to the pin of the inverter communication port.

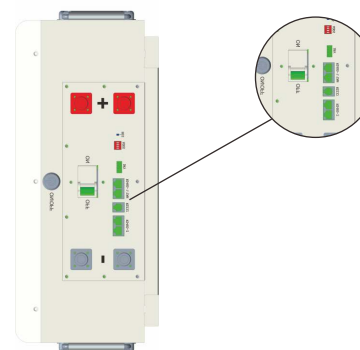


The pin pin of the battery BMS interface is defined as follows:

"ADS" is used for parallel use of battery packs. PACK can be distinguished by hardware address. For the definition of primary and secondary addresses of ADS, refer to "Communication Address Selection Instructions".

The "RS485/CAN" battery pack can communicate with the upper computer or inverter and reverse control integrated computer through the interface;

"RS485" is used in parallel with the battery Pack, and the master Pack communicates with the slave pack through this interface;



The battery communication port uses an 8P8C RJ45 socket			
RS485-2		PRS485-1/CAN	
Stitch	Definition specification	Stitch	Definition specification
1、 8	RS485-B	1、 8	RS485-B
2、 7	RS485-A	2、 7	RS485-A
		4	CAN-H
		5	CAN-L

Table 3 LED flashing description

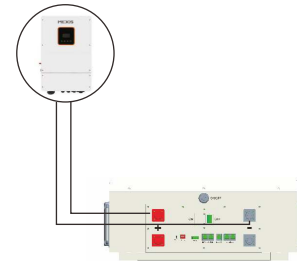
Flashing method	Bright	Extinguish
Flash 1	0.25S	3.75S
Flash 2	0.5S	0.5S
Flash 3	0.5S	1.5S

Remarks: The LED indicator alarm can be enabled or disabled through the host computer, and the factory default is enabled.

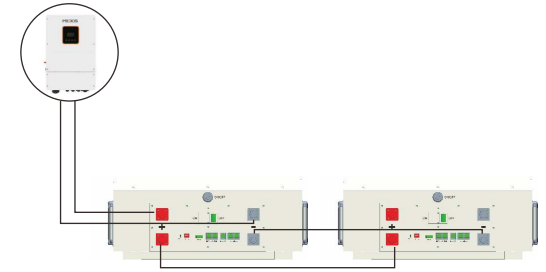
■ Key description

- When the BMS is in hibernation state, press the button (3~6S) and release it, the protection board is activated, and the LED indicator lights up successively from "RUN" for 0.5 seconds.
- When the BMS is in the active state, press the button (3~6S) and release it, the protection board will be hibernated, and the LED indicator will turn on for 0.5 seconds from the lowest power lamp.
- When the BMS is activated, press the button (6~10s) and release it, the protection board is reset, and the LED lights are all on for 1.5 seconds at the same time.
- After the BMS is reset, the parameters and functions set by the host computer are still retained. If the initial parameters need to be restored, they can be achieved by "restoring default values" of the host computer, but the relevant running records and stored data remain unchanged (such as power consumption, cycle times, protection records, etc.).

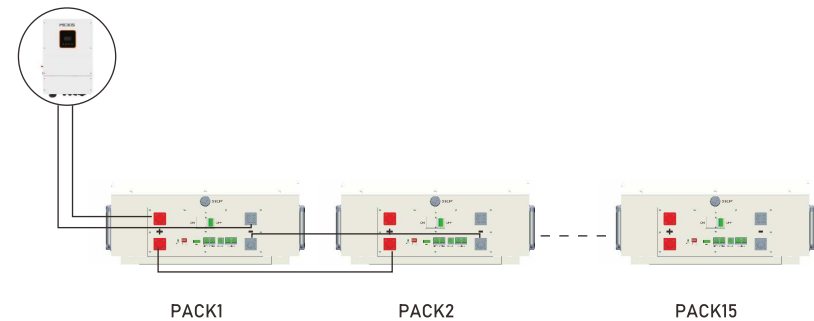
4. Parallel operation



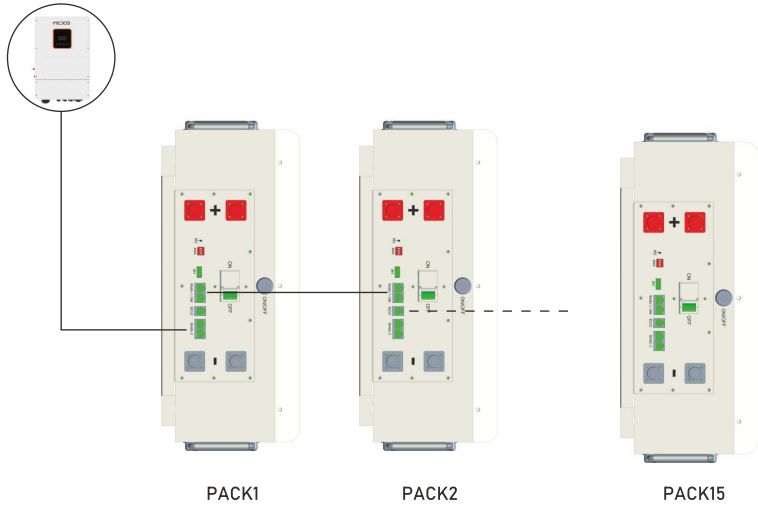
① Schematic diagram of the connection of the output outlet when a battery is used



② Schematic diagram of connecting the output outlet when two batteries are used



③ When multiple batteries are used in parallel, the output outlet connection diagram



③ Schematic diagram of signal outlet connection when multiple batteries are used in parallel

Attention!

1. Up to 15 machines in parallel!!
2. When battery strings are connected in parallel, the hardware address of each PACK in the battery string is unique.
3. You must set one as a host. The host (RS485/CAN) communicates with the reverse controller or inverter. The hardware addresses can be set by the dip switch on the board.

■ Recommended inverter parameters:

Battery Type: LiFePO4(lithium iron phosphate)	
Discharge cut-off voltage: 43.2V	Surge charging voltage: 60V
Overdischarge recovery: 51.2V	Overvoltage protection: 58.4V
Normal charging voltage: 58.4V	Overvoltage recovery: 56V

5. LED instruction

Table1 LED working status indication

State	Normal/Warning/Protect	RUN	ALM	Battery indicator LED				Illustrate
		●	●	●	●	●	●	
Shutdown	Hibernate	Extinguish	Extinguish	Extinguish	Extinguish	Extinguish	Extinguish	Annihilate
Standby	Normal	Flash 1	Extinguish	According to the battery indicator				Standby mode
	Alert	Flash 1	Flash 3	According to the battery indicator				Module low voltage
Charge	Normal	Always bright	Extinguish	According to the battery indicator (battery indication maximum LED flashes 2)				Maximum battery LED flashes move (flashing 2), overcharge warning ALM does not flash during alarm
	Alert	Always bright	Flash 3	According to the battery indicator				
	Overcharge protection	Always bright	Extinguish	Always bright	Always bright	Always bright	Always bright	If there is no utility power, indicate light goes to standby
	Temperature, overcurrent, failsafe	Extinguish	Always bright	Extinguish	Extinguish	Extinguish	Extinguish	Stop charging
Discharge	Normal	Flash 3	Extinguish	According to the battery indicator				Stop charging
	Alert	Flash 3	Flash 3	According to the battery indicator				
	Undervoltage protection	Extinguish	Extinguish	Extinguish	Extinguish	Extinguish	Extinguish	Stop charging
	Temperature, overcurrent, short circuit, reverse, connection, failsafe	Extinguish	Always bright	Extinguish	Extinguish	Extinguish	Extinguish	Stop charging
Invalid		Extinguish	Always bright	Extinguish	Extinguish	Extinguish	Extinguish	Stop charging and discharging

Table2 Description of capacity indication

State	Charge				Discharge			
	L4 ●	L3 ●	L2 ●	L1 ●	L4 ●	L3 ●	L2 ●	L1 ●
Capacity indicator								
Battery (%)	0~25%	Extinguish	Extinguish	Extinguish	Extinguish	Extinguish	Extinguish	Constant
	25~50%	Extinguish	Flash 2	Flash 2	Constant	Extinguish	Extinguish	Constant
	50~75%	Flash 2	Flash 2	Constant	Constant	Extinguish	Constant	Constant
	75~100%	Flash 2	Constant	Constant	Constant	Constant	Constant	Constant
Running lights ●	Constant				Blink (blink 3)			