

Batterlution

LFPWall 10K

User Manual



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1 Safety Information

1.1 General Safety

Please carefully read the manual safety precautions, and observe all the safety instructions on the equipment and in this document.

The "DANGER", "WARNING", and "NOTICE" statements in this document do not cover all the safety instructions. They are only supplements to the safety instructions.

In order to ensure human safety and effectively utilize this manual, use the appropriate symbol to emphasized outstanding. You must fully understand and comply with the emphasized information to avoid personal injury and property damage. Relative safety symbols have been listed below.

 Danger	DANGER indicates a hazardous situation which, if not avoided will result in serious injury and fire happens.
 Warning	WARNING indicates a hazardous situation which, if not avoided will result in property loss or void warranty.
 Notice	NOTICE indicates a normal situation which, if not avoided will result system doesn't work.

Follow local laws and regulations when installing, operating, or maintaining the equipment. The safety instructions in this document are only supplements to local laws and regulations.

1.2 Personal Safety

Personal Requirements

Personnel who plan to install or maintain battery equipment must be trained, understood all necessary safety precautions, and be able to perform all operations correctly.

Only qualified professionals or trained personnel are allowed to install, operate, and maintain the equipment.

Personal Safety



- Do not place battery at a children or pet touchable area.
- Do not touch the energized battery, as the enclosure is hot.
- Do not touch the energized battery terminals.
- Do not stand on, lean on, or sit on the battery.

1.3 Electrical Safety

Symbols on battery

There are some electrical symbols on battery relate to electrical safety. Please make sure you have fully understand them before installation.

	SOC Indicator	SOC Indicator on front panel is for battery energy percentage display.
 RUN	Working indicator	Battery working indicator on front panel is for showing battery working status.
 ALM	Alarm indicator	Red alarm light shows alarm and fault happen.
	Electrical danger	Voltage exits when the battery is powered on. Only qualified engineers are allowed to operate.
	Earth connector	Earth connection.
	DC positive and negative connectors	Identify positive and negative connectors of DC power source.
	CE mark	The product meets CE certification.
	WEEE tag	Can't leave battery as garbage disposal.
	Recycle	Battery can be recycled

Electrical Safety



- Before installation, ensure that the equipment is intact. Otherwise, electric shocks or fire may occur.
- Do not connect or disconnect power cables when battery is power-on. Which may cause electric arcs and sparks more over fire or personal injury.
- Before connecting a power cable, check the positive or negative connectors are correct.
- Do not parallel connect different batteries.
- Do not connect battery with AC directly.
- Do not connect battery with PV wiring directly.
- Do not connect batteries in series.
- Do not connect battery to faulty or unqualified inverter or charger.
- Do not create short circuits with the external connection.
- Make sure cut-off grid and power-off battery before maintenance.
- Make sure earth cable connect correctly before operation.



- Recharge battery every six months.
- Recharge battery within 10 days after battery is fully discharged.
- Please engage greater than or equal to two batteries when maximum charge current is more than 200A.
- Make sure battery cable placement is installed correctly.
- Use moto meter to make sure there is no voltage between positive and negative terminals after power-off battery when install or maintenance.

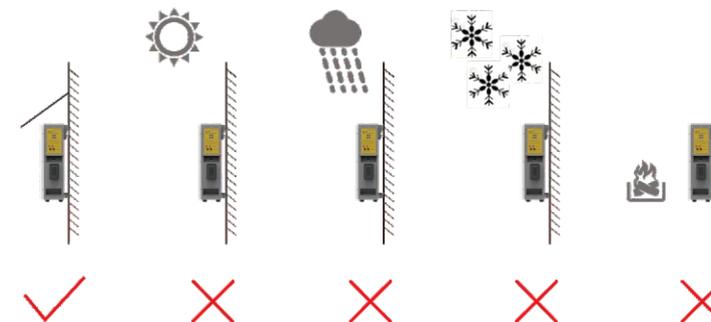


- Please use dedicated insulated tools for install and maintenance.
- Please make sure all batteries are power-off when multiple parallel connection.
- Please check lights on sequence when battery power-on.
- Please make sure communication connection connect correctly with battery and inverter.
- Please make sure ADDS dip switch settings are correctly for single or multiple batteries.
- Please check inverter alarm or SOC reading when there is BMS communication with inverter.

1.4 Environment Safety



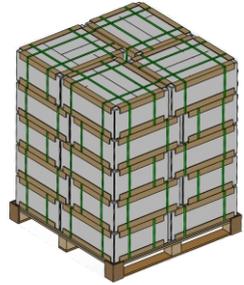
- Ensure that the equipment is installed in a dry and well-ventilated environment.
- The installation position must be away from direct sunlight and rain.
- The installation position must be far away from fire sources.
- The installation position must be far away from water sources such as taps, sewer pipes, and sprinklers to prevent water seepage.
- The bracket must be installed solid and horizontal.
- Do not expose the equipment to flammable or explosive gas or smoke. Do not perform any operation on the equipment in such environments.
- The operation and service life of the battery depend on the operating temperature. Operate the battery at a temperature equal to or better than the ambient temperature. The recommended operating temperature ranges from 0°C to 30°C.



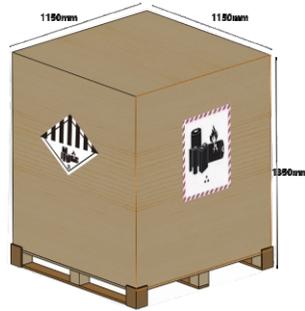
1.5 Transportation Safety



- The products passed certification UN38.3
- The products have MSDS.
- The products belong to class 9 dangerous goods.
- Please protect the packing case from the below situations.
 1. Being dampened by rains, snows, or falling into water
 2. Falling or mechanical impact
 3. Being upside-down or tilted



10 batteries per pallet



2 Product Information

2.1 Battery Overview

The LFPWall-5000 battery is a wall mounted lithium battery pack which consists of long life-span LiFePO4 battery cells and functional BMS. It can store and release electric energy based on the requirements of the inverter controller. It is mainly for home energy storage system.

Features

- LiFePO₄ prismatic cell
- 6000 cycles @0.5C condition
- Maximum 1C charge and discharge capability
- No dip switches, addressing automatic self-adaption
- Scalable up to maximum 15 packs
- Protective and active BMS allows greater reliability and control
- IP 54 grade
- Connectors built-in design
- Fully recyclable at the end of life
- Compact

2.2 Appearance



Front View

- SOC indicators
- Working indicator
- Alarm indicator



Side View

- Operation panel
- Start button
- DC main breaker



Side View Removed
Operation Panel

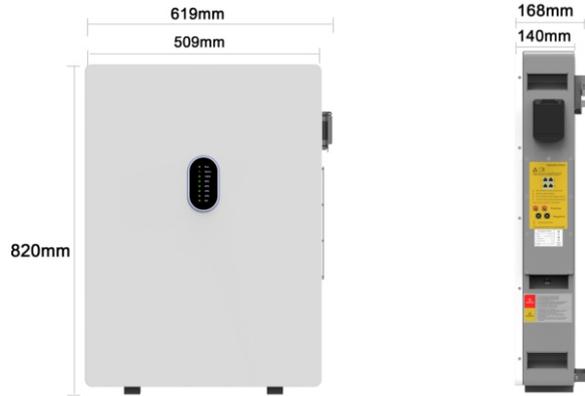
- Communication link ports
- Power connectors
- Grounding terminal



Back View

- Wall mounted Bracket

2.3 Dimensions

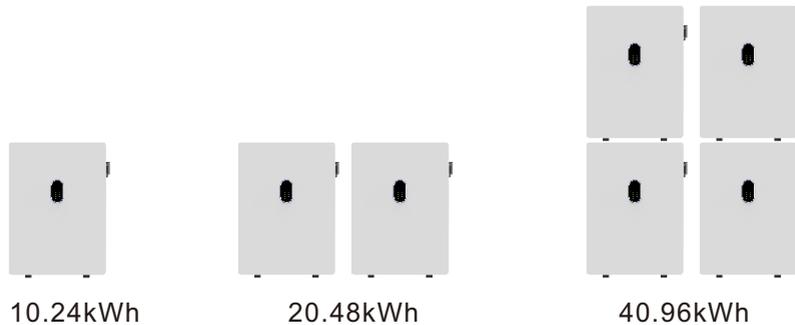


2.4 Capacity Options

The battery can be parallel connected for extending power(kW) and energy(kWh)

Warning

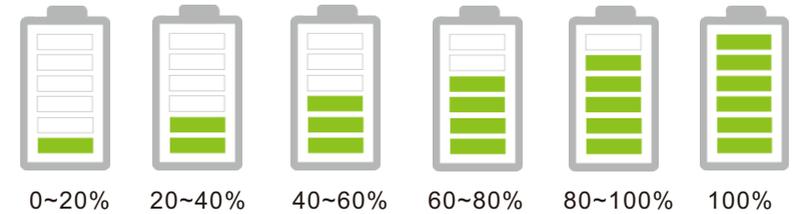
- The maximum power(kW) is limited by main cables from master battery to inverter when all batteries are link connected
- The maximum power(kW) can scalable when all batteries are parallel connected by current combine unit.
- Maximum 15 battery packs can be parallel communicated.



AND MORE

2.5 Display

SOC Display



Charging

When battery is in charging, top green light is flashing, below green lights are solid on. RUN green light is solid on.



Discharging

When battery is in discharging, all green lights are solid on. RUN green light is flashing.

Warning and Protect

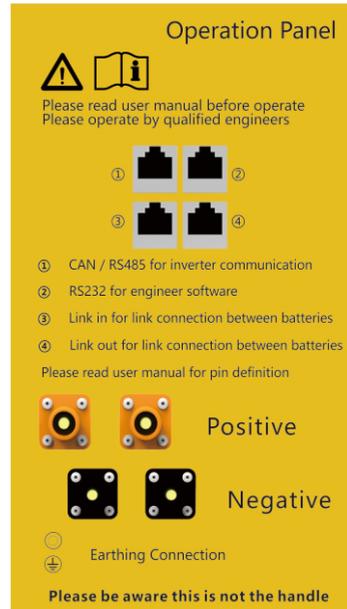
When warning happens, ALM red light is flashing.

When over charged protect happens, RUN green light is solid on. ALM red light is off. SOC green lights are all on.

When over discharged protect happens, all lights are off.

When fail protect happens, RUN green light is off. ALM red light is solid on. SOC green lights are all off.

2.6 Operation



⚠️ Notice

- Please remove the operation panel to see the hiding connections.
- Please operate by qualified engineers.

Start Button



When battery is sleeping, push start button for 3~6 seconds to start battery, all lights are flashing in turn. Battery is waked up.

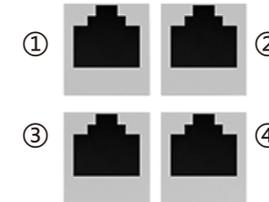
When battery is working, push start button for 3~6 seconds to sleep battery, all lights are flashing in turn. Battery is off.

When battery is working, push start button for 6~10 seconds to reset battery, all lights are on for 1.5 seconds.

Main Switch (Breaker)

Main switch is a DC breaker to physically to connect or cut off main circuit of battery.

Communication Ports

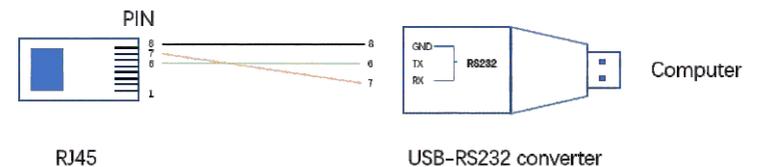


① CAN/RS485 port is for inverter BMS communication.



- | | |
|-------------|-------------|
| 1. RS485 B1 | 5. CAN_L |
| 2. RS485 A1 | 6. GND_B |
| 3. Empty | 7. RS485 A1 |
| 4. CAN_H | 8. RS485 B1 |

② RS232 port is only for debugging through computer engineer software, all battery information can be read here. The default baud rate is 9600bps.



- ③ Link in port is the communication cable input between batteries.
- ④ Link out port is the communication cable output between batteries.

⚠️ Notice

- Please be aware the battery BMS protocol need to be compatible with inverter.
- CAN communication baud rate is 500K.
- RS232 communication baud rate is 9600bps.
- Please communicate with inverter or engineer software by correct Rj45 Pin addresses

Power Connectors



Positive



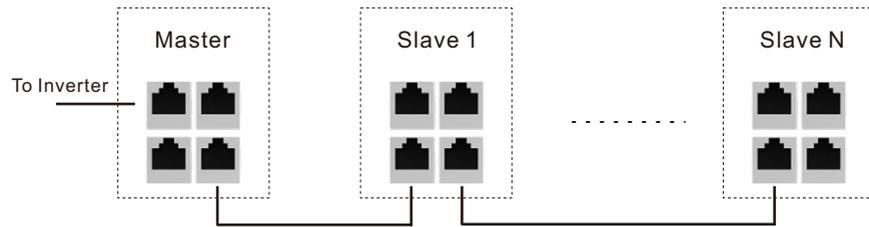
Negative

Notice

- Please use the accessory cable kit or connectors for battery power connection.
- Battery cable suggestion cross-section 4-6AWG.

2.7 Multiple Batteries Parallel Connection

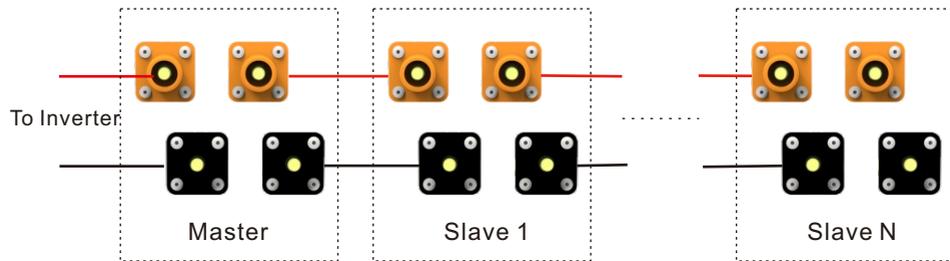
Communication Link



Notice

- Please know battery addressing is self-adaption, no need dip switch settings.
- Please use standard network cables and RJ45 heads for link between batteries.

Power cable connection



3 Installation

3.1 Unpacking and Inspection

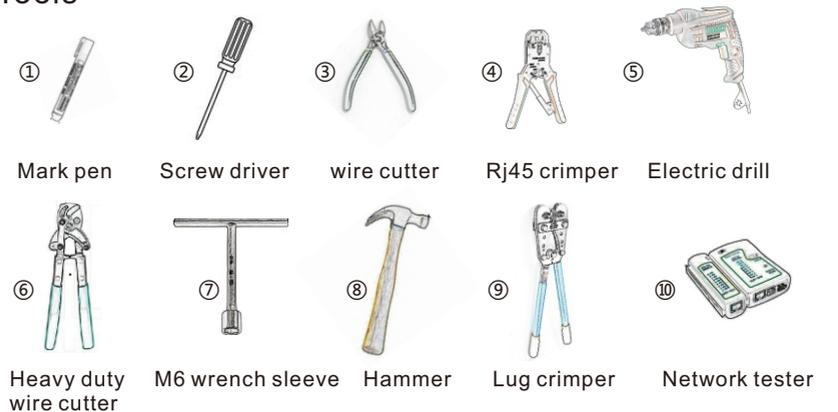
Please inspect all items when unpacking.
Please ensure there is no any damage for all items.

No.	Item	Description	Qty
1	Battery Pack	5.12kWh battery pack	1 Set
2	Bracket	Wall mounted bracket	1 Set
3	Anchor Bolt	Wall mounted M8x60mm Bolt	6 PCS
4	Cable Plug	Power Cable Quick Plug	2 PCS
5	RJ 45 Cable	For BMS communication, 2 meter length	1 PCS
6	QC Report	Factory Inspection Report and QC card	1 Set
7	Power cables	For Power connection	1 pair
8	Earth Lug	For earth cable	1 Set

3.2 Tools and Materials

Please prepare the below needed tools, materials and safety gear before installation.

A) Tools



B) Materials



- ① Network cable
- ② 6AWG red positive power cable
- ③ 6AWG black negative power cable
- ④ Ground cable

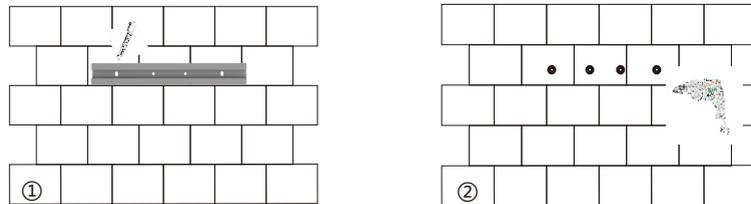
C) Safety Gear



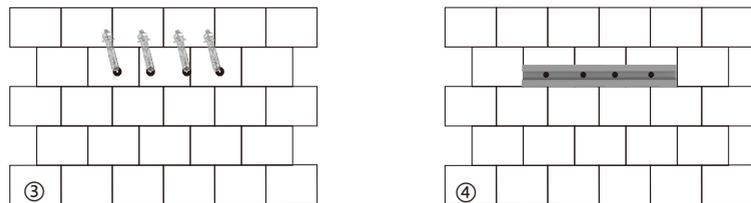
3.3 Installation

The battery is wall mounted or ground stand directly. Please follow the below steps for install.

A) Use the bracket as the template to mark the positions of 4 holes, then drill 12mm holes and make sure the depth of holes is deeper than 60mm.



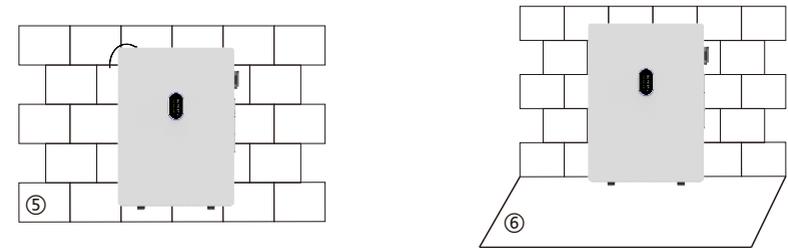
B) Please mount the bracket on the wall by anchor bolts tightly on the wall.



C) Mount bearing accessories on the back of battery by screws. Ensure they are screwed tightly.



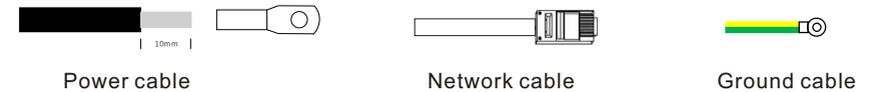
D) Install the battery on the wall mounted bracket. Or battery can stand on the ground back to the wall directly.



Danger

- To prevent potential damages and injuries from heavy battery falling down, please carefully hang the battery on the bracket by two people. Don't loosen force unless confirm the battery is well mounted.

D) Measure the power cable and network cable length from battery terminals to inverter terminals. Measure the cable length between batteries too if there is parallel battery installation. Then please make moderate length power cables, network cables and ground cables.

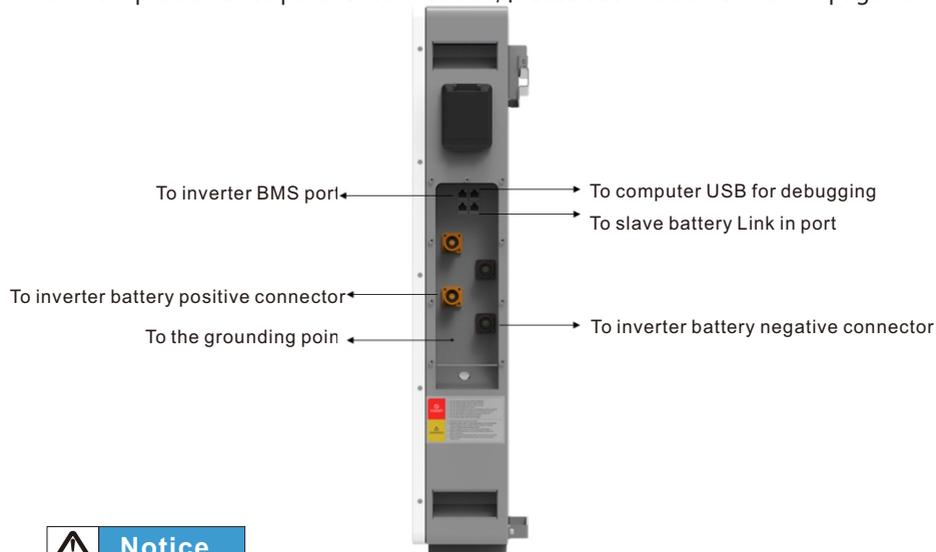


Notice

- Please ensure network cable terminals are based on battery and inverter communication port pin definition.
- Please use network tester to ensure communication cable works properly.

E) Please remove operation area plate on the right side of battery pack. And please connect power cables, network cable and ground cable in the correct ports.

For multiple batteries parallel connection, please see the content 2.7 in page 10th.



Notice

- Please debug battery by engineer software before recovering operation plate.

4 System Commissioning

4.1 System Power-On

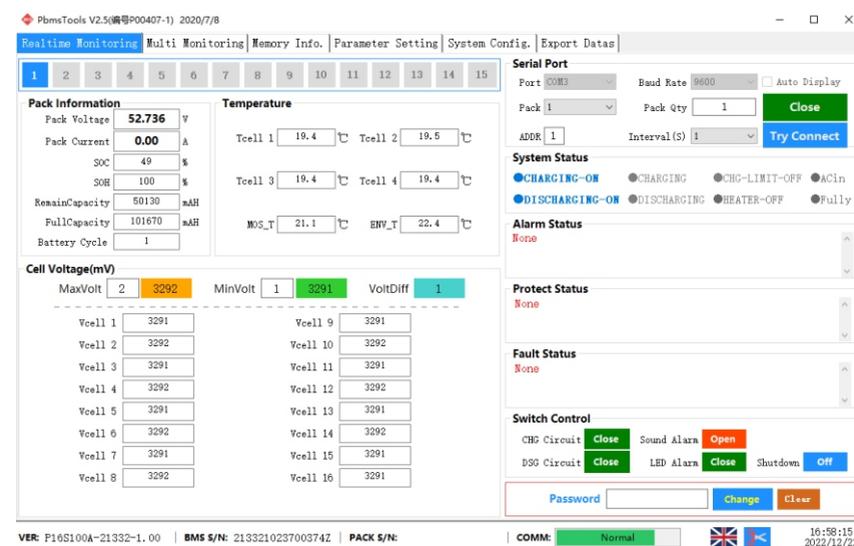
Notice

- Turn on the DC main breaker. After the battery is installed and powered on by start button for the first time, all LED blinks for three circles, then LED goes to normal display.
- Turn off the battery by start button, SOC and RUN LED blink in turn once, then goes all off.
- After turning on the battery switch, power on the inverter. For details about how to power on the inverter, see the quick guide for the corresponding inverter model.

4.2 Battery Information Check

Notice

- Please read battery parameters by engineer software.
- Please change language by right bottom flags when necessary.
- Please follow chapter 2.6 pin definition and USB kit to achieve RS232 port to computer. After click Open and the communication is successful, you will have a green rolling columnar and shows Normal.



Notice

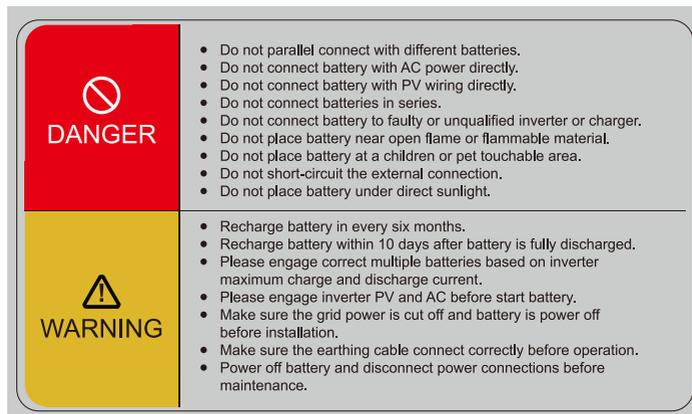
- Please read battery parameters and ensure the total voltage, single cell voltages, temperatures, SOC and capacity are all correct.
- Please ensure there are no alarm, protect and fault happened.

5 Specifications

5.1 Product Name Plate



5.2 Warning and Danger Sticker



5.3 Specifications

Battery Specifications	
Model	LFPWall 10K
Nominal Voltage	51.2V
Rated Capacity	200Ah
Energy	1024Wh
Battery Impedance	≤ 50 mΩ
Charging Cut-off Voltage	56.16 V
Discharge Cut-off Voltage	45.6 V
Recommend Charge Current	0.2 C 40 A
Max Charge Current	0°C ~ 15°C: 40A; 15°C ~ 45°C: 100A;
Max Continue Discharge Current	200 A, -20°C~60°C ; 65±20%RH
Operating Temperature Range	-20~60°C
Storage Environment (50% state of charge)	20°C ~ 45°C in three months; 25±3°C over three months; Humidity:65±20%RH
Environment	Indoor
Installation	Wall mounted/Floor stand
Cell Technology	Lithium-iron phosphate (LiFePO ₄)
Life Cycle	6000 times @80%DOD
Cooling	Natural convection
Protection Rating	IP54
Certificates	CB, IEC62619, UN38.3, MSDS CE-EMC, EN61000-6-1/2/3/4; CE-GPDS, EN62619