

48V100AH Powerwall Battery Pack

(please read the instructions carefully before use.)

Specification

Please use or install strictly according to the following instructions:


1. Professional personnel operation or local dealers shall assist in completing the installation .
2. Do not pour the liquid into the battery box, or wipe the machine shell with a wet cloth. When the machine is running, the human body cannot directly contact the input and output terminals of the battery box, especially the wet hand, otherwise it will cause electric shock damage.
3. If it is necessary to change its working environment, it shall be confirmed by the professional or distributor.
4. The operating environment of the battery box should be used in the environment with good ventilation and temperature range -20 to 45 degrees. It should be kept away from the light source and direct sunlight. Do not operate in the dew or dust environment. It is normal to have a certain amount of heat in the process of use, but to keep the ventilation and heat of the installation environment clean and clean, especially the ventilation holes should not be blocked.
5. Minors shall not use this product.
8. Please do not open the chassis without permission.
9. Please keep this manual for future reference.

Note:

A. This product shall not be used for the maintenance of life equipment without permission.

B. The battery box is not suitable for ultra high precision electronic equipment. It needs to be confirmed by professional technical personnel before it can be put into operation.

Warning!

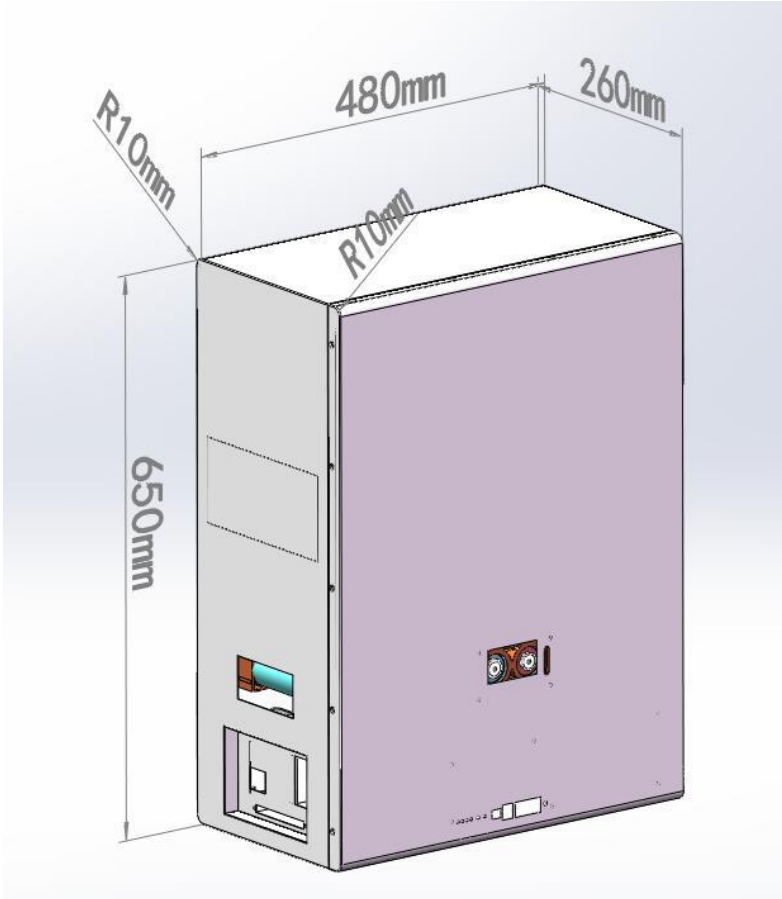
 **It is strictly forbidden to reverse the battery. It is forbidden to connect the fire line and the zero line.**

 **It is strictly prohibited to use in flammable and explosive atmosphere.**

One. Battery

1. Battery composition

This product uses a single core 43184 lithium iron phosphate lithium battery through 16 strings of 5 and assembled, connected by connecting piece and screw into 48V100AH battery pack. The outer panel of the battery pack is insulated with epoxy board, and the assembled battery pack is connected with the protective plate, and finally put into the battery box to complete the assembly.



2. Battery Group Specifications

Pile Index 参数	Rated Capacity 标称容量	100Ah
	Nominal Voltage 额定电压	48V
	Nominal Resistance 内阻	≤50.0mΩ
	Max. Charge Voltage 最大充电电压	58.4V
	Discharge cut-off voltage 放电截止电压	40V
	Charge Current 充电电流	≤50A
	Max Charge Current 最大充电电流	50A
	Charge method 充电方法	CC/CV (恒流恒压)
	Dimension 尺寸	480*260*650mm
	Working Current 工作电流	≤100A
Operating Temperature 适用温度	Charge 充电	0°C~45°C; 32°F~113°F
	Discharge 放电	-20°C~60°C; -4°F~149°F
	Storage 储存	-10°C~35°C; 14°F~95°F

2.BMS

1. Product overview

This protective plate is used to use 48V specification UPS communication backup power supply for lithium iron phosphate battery, including charge management, discharge management, voltage management, equilibrium management, temperature management, current management and SOC management, so as to ensure the stability of the lithium battery and prolong the life of lithium battery. On board RS232 uplink communication and RS485 parallel communication, through the background monitoring system to get BMU related information.

2. Basic characteristics

- ✓ ARM low power processor;
- ✓ Using professional battery management chip;
- ✓ Support current limiting charging mode (maximum 20A, background adjustable);
- ✓ Support RS232 communication;
- ✓ Support RS485 communication;
- ✓ Support 4 channel temperature acquisition;
- ✓ Support for high and low temperature overcharge and overplay protection;
- ✓ Support equilibrium function (equilibrium current >100mA);
- ✓ Support SOC computing and calibration;
- ✓ Support abnormal state dry contact output;
- ✓ Support two level overcurrent protection;
- ✓ Support output short circuit protection;
- ✓ Support polarity reverse protection;
- ✓ Support data storage;

Support alarm protection parameter backstage modification;

3. Electrical parameters (basic setting, software modification)

Serial number	Target item	Functional switch	Alarm / protection	Default value	Remarks
	Overpressure		Overvoltage alarm	3600mV	

1	of monomers Alarm and protection	open	Overvoltage protection of	3800mV	
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Serial number	Target item	Functional switch	Alarm / protection	Default value	Remarks
			mono		
			Monomer overvoltage delay	2S	
			Overpressure recovery of monomers	3450mV	
	Overpressure of monomers Protection and recovery	open	Capacity release	SOS<94%	
			Discharge discharge	discharge current>1A	
2	Undervoltage of monomers Alarm and protection	open	Single undervoltage alarm	2800mV	
			Undervoltage protection of monomers	2500mV	
			Undervoltage delay of monomer	2S	
	Undervoltage of monomers Protection and recovery	open	Undervoltage recovery of monomers	2700mV	
			Protection delay	2S	
			Recharge	Access charger	
3	Total pressure overvoltage alarm and protection	open	Overpressure overvoltage alarm	57.6V	
			Total pressure overpressure protection	60.8V	
			Total pressure overvoltage delay	2S	
	Total pressure overpressure protection recovery	open	Total pressure overpressure recovery	55.2V	
			Capacity release	SCO<94%	
			Discharge discharge	I>1A	

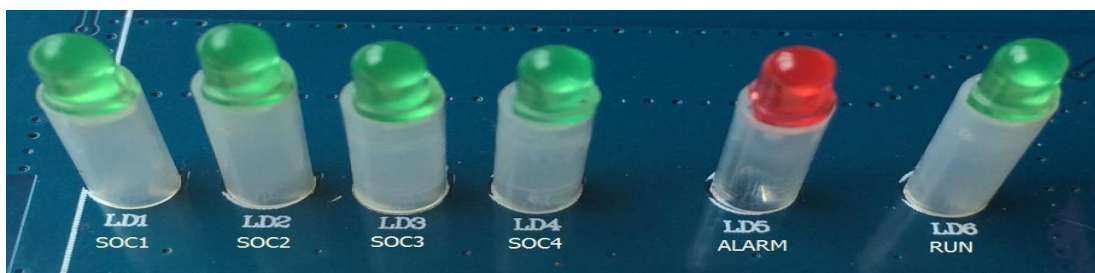
Serial number	Target item	Functional switch	Alarm / protection	Default value	Remarks
4	Total pressure undervoltage alarm and protection	open	Total pressure undervoltage alarm	45V	
			Total pressure under pressure protection	41V	
			Total pressure delay	2S	
	Recovery of total pressure under pressure	open	Total pressure recovery	43.2V	
			Recharge	Access charger	
5	Charging overcurrent alarm and protection	open	Charging overcurrent alarm	105A	
			Charging over current protection	110A	
			Charge overcurrent delay	2S	
	Recharging over current protection recovery	open	Automatic release	Auto release after 90S	
			Discharge discharge	$I < -1A$	
6	1 alarm and protection of discharge over current	open	Discharge over current 1 alarm	105A	
			1 protection of discharge over current	110A	
			Discharge over current 1 delay	2S	
	Discharge over current 1 protection recovery	open	Automatic release	Auto release after 90S	
			Recharge	$I > 1A$	
7	2 protection of discharge over current	open	2 protection of discharge over current	$\geq 150A$	
			Discharge over current 2 delay	100mS	

Serial number	Target item	Functional switch	Alarm / protection	Default value	Remarks
	Discharge over current 2 protection recovery	open	Automatic release	Auto release after 90S	
			Recharge	I>1A	
8	Output short circuit protection	open	Short circuit protection current	$\geq 300A$	
			Short circuit protection delay	$\leq 300 \mu S$	
	Output short circuit release	open	Recharge	Access charger, automatic release	
			Remove load release	Load removal, automatic release	
9	Power and high temperature alarm and protection	open	Power and high temperature alarm	80°C	
			Power and high temperature protection	105°C	
			Power high temperature recovery	100°C	
10	Low temperature warning and protection of electric core	open	Low temperature warning for electric core	-10°C	
			Low temperature control of electric core	-20°C	
			Low temperature charge release of electric core	0°C	
			Low temperature control of	-20°C	

Serial number	Target item	Functional switch	Alarm / protection	Default value	Remarks
			electric core		
			Low temperature release of electric core	0°C	
	High temperature alarm and protection of electric core	open	High temperature alarm for electric core	60°C	
			Electric core high temperature prohibition charge	80°C	
			High temperature charge release of electric core	55°C	
			High temperature control of electric core	80°C	
High temperature release of electric core	55°C				
11	Environmental low temperature alarm and protection	open	Environmental low temperature alarm	-10°C	
			Environmental low temperature protection	-20°C	
			Environmental low temperature recovery	0°C	
	Environmental high temperature	open	Environmental high temperature	60°C	

Serial number	Target item	Functional switch	Alarm / protection	Default value	Remarks
	alarm and protection		alarm		
			Environmental high temperature protection	80°C	
			Environmental high temperature recovery	55°C	
12	Electric core balancing	open	Equilibrium starting voltage	3.500V	
			Equilibrium initial pressure difference	50mV	
			Balanced end pressure difference	30mV	
			Equalizing low temperature	-20°C	
			Equalizing high temperature	80°C	
13	Battery capacity	open	Residual capacity alarm	<30%	
			Full capacity of battery	100Ah	
			Surplus capacity of factory	Actual capacity value	

4. State indicator lamp



SOC1: green light, residual power indicator 1; corresponding SOC 25%;

SOC2: green light, residual power indicator 2; corresponding SOC 50%;

SOC3: green light, residual power indicator 3; corresponding SOC 75%;

SOC4: green light, residual power indicator 4; corresponding SOC 100%;

ALARM: red light, alarm protection indicator, flashing alarm, constant bright protection;

RUN: green light, running indicator.

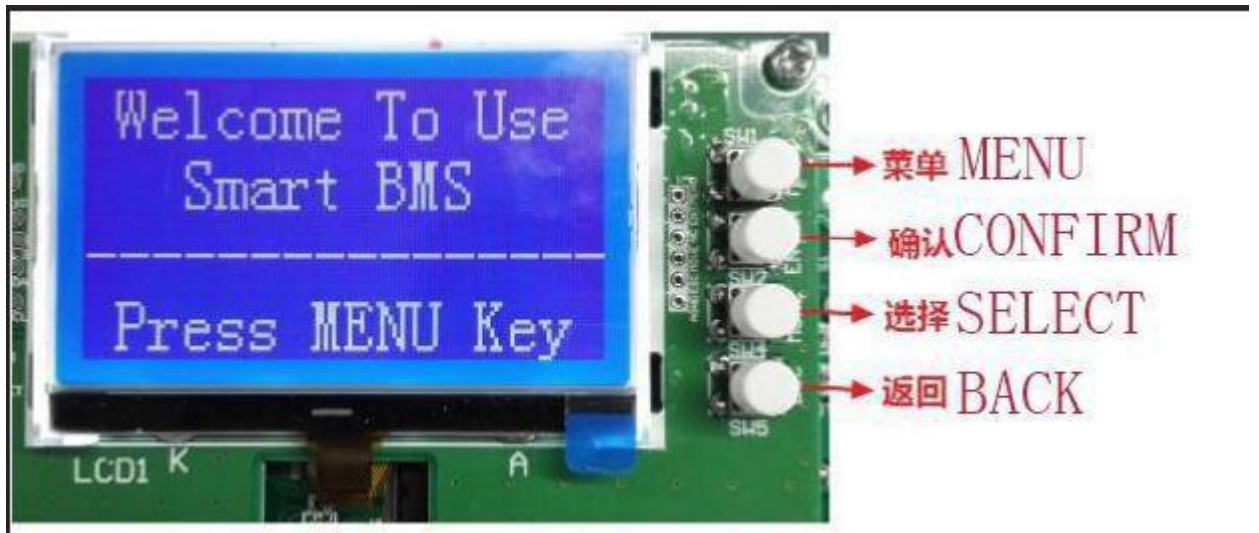
4.1 LED status indication

system state	running state	RUN	ALM	SOC				Explain
		Function	Give an alarm	Capacity 1	Capacity 2	Capacity 3	Capacity 4	
Turn off the machine	dormancy	destrory	destrory	destrory	destrory	destry	destrory	Completely destroyed
standby	normal	flash	destrory	destrory	destrory	destry	destrory	standby
	Give an alarm	flash	flash3	destrory	destrory	destry	destrory	Module low voltage
charging	normal	Normally on	destrory	flash2	destrory	destry	destrory	0~25% Charge
		Normally on	destrory	Bright	flash2	destry	destrory	25%~50% Charge
		Normally on	destrory	Bright	Bright	flash2	destrory	50%~75% Charge
		Normally on	destrory	Bright	Bright	Bright	flash2	75%~100% Charge
		Normally on	Extinguish	Bright	Bright	Bright	Bright	Full of electricity

		on						
	protect	Normally on	Extinguish	Bright	Bright	Bright	Bright	Note: only the market power is always bright. If there is no electricity, the indicator is standby.
discharge	normal	flash	destroy	Normally on	Normally on	Normally on	Normally on	100%~75% discharge
		flash	destroy	Normally on	Normally on	Normally on	destroy	75%~50% discharge
		flash	destroy	Normally on	Normally on	destroy	destroy	50%~25% discharge
		flash	flash	Normally on	destroy	destroy	destroy	25%~0% discharge
	Give an alarm	flash	flash	According to the normal discharge quantity display.				
	Overcurrent, short circuit, reverse connection, failure protection	destroy	Normally on	destroy	destroy	destroy	destroy	Stop charging and discharging.

	on.							
	Under voltage protection	destr roy	destr oy	destr roy	destr oy	destr oy	destr oy	Stop discharge
The temperature	normal	According to normal state instructions.						
	Charging the alarm	Normally on	flash3	According to the charge quantity indicator.				Maximum LED2 flash 2
	Discharge the alarm	flash3	flash3	According to discharge quantity indication.				According to the constant light indication.
	protect	destr oy	Normally on	destr oy	destr oy	destr oy	destr oy	

5. LCD



The LCD module Real figure

After the LCD, the interface is shown as follows:



Press the "menu" button to enter the main menu display interface:



Move the cursor to select the menu by "select" and press "confirm" to enter the menu display interface.

The liquid crystal can be used to view single voltage data, temperature data, charge and discharge current and various alarm and protection conditions.

Note: 1. Press the "menu" button in any display interface, and the LCD will enter the main menu display interface.

2. Press the "back" button to return to the upper level display interface.

3.48V100AH battery pack specs:

Type:LiFePO4

Nominal Voltage:48v

Nominal Capacity:100AH

Weight:appro 70kg

Case: iron(customized)650*480*260mm

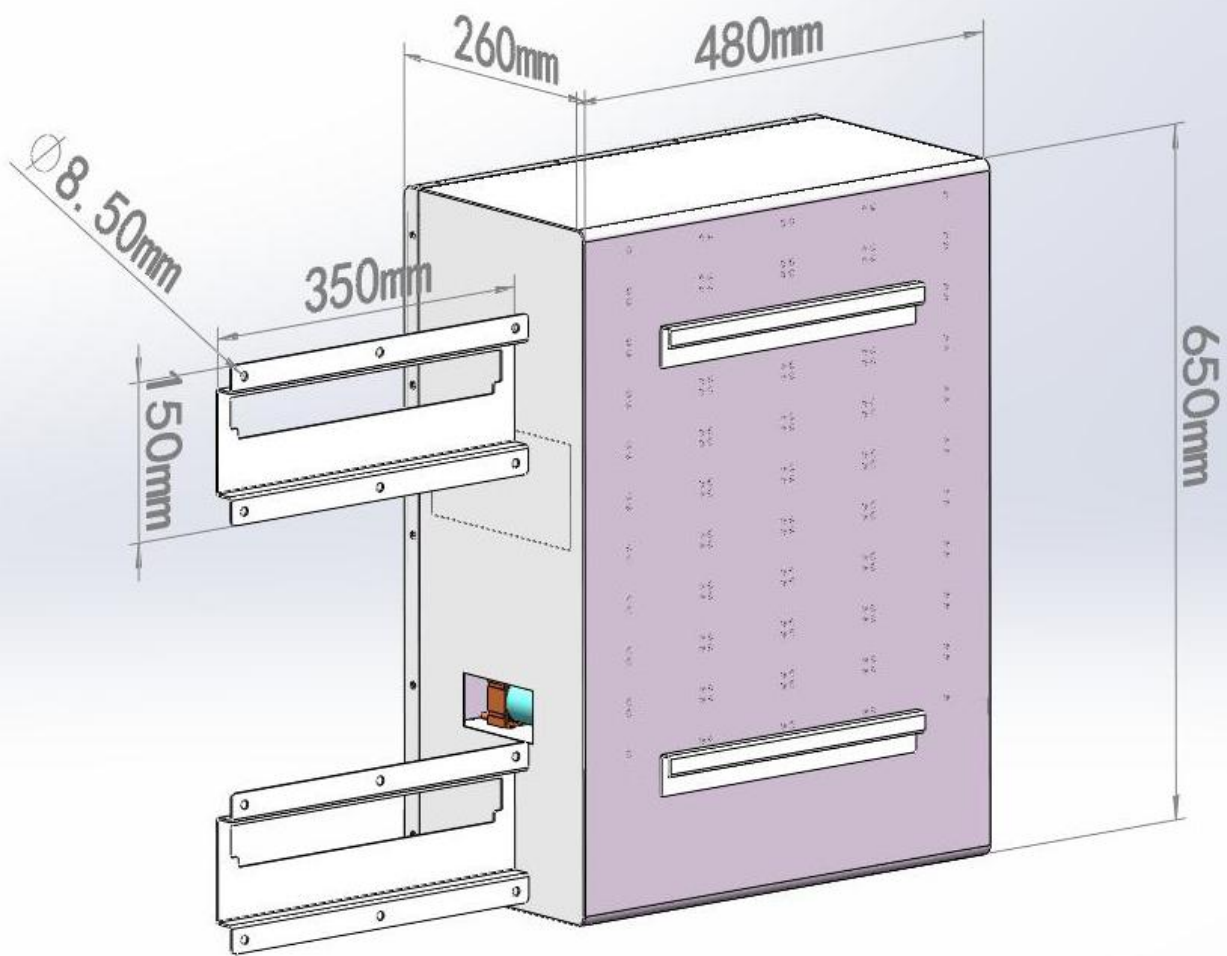
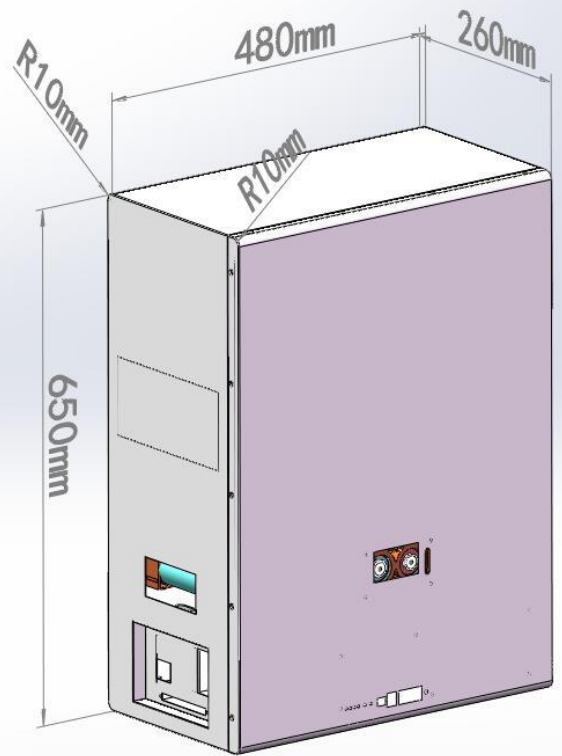
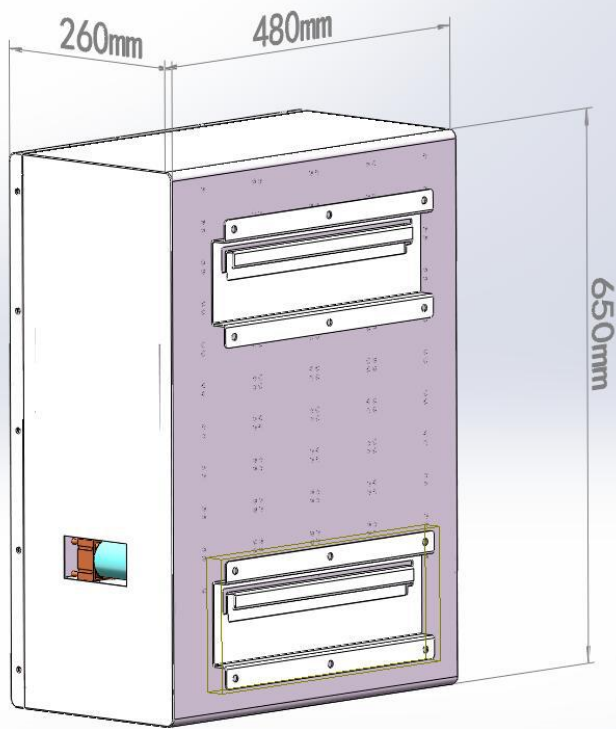
BMS:Continues discharge 100ah; peak discharge 200ah;RS485,RS232.

Material:LiFePO 43184 3.2v20ah lithium battery cell

Composed type:16S5P

Cycle life:≥2000TimesDOD80%

Warranty:24 months



Wall bracket