Rack type lithium battery series

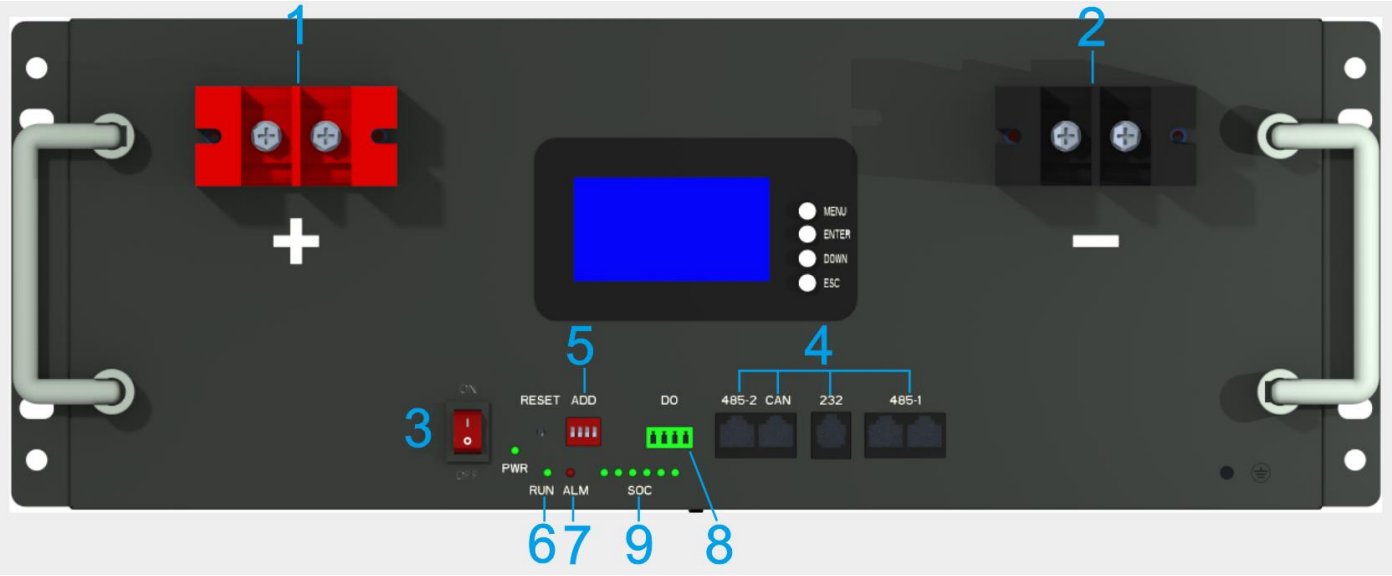
Instructions

Content

The 51.2V100Ah battery pack exterior shape

No.	Technical Parameter	
1	Battery model	51.2V100Ah
2	Case material	metal plate
3	Shell color	black
4	Battery case	442*482*133/177

1 Electrical layout



1 output cathode +

Battery cathode output connector, and the 2-bit terminals on the cathode output connector have exactly the same purpose and performance.

2 output negative electrode-

Battery negative output connector, the 2-bit terminals on the negative output connector have exactly the same purpose and performance.

3 switch machine button

When the battery is turned off, press the self-lock switch button 1S on the right side of the battery pack and release the boot;

When the battery is turned on, press the switch and release the shutdown;

4 RS485\CAN(INVERTER)；RS232；RS485(BATTERY)

RS485 and CAN is the inverter communication;

RS232 is for computer communication;

RS485-A and RS485-B is for battery and battery parallel communication.

5 ADS

ADS dial switch to set the ID address of the battery pack in the connected network.

6 RUN

When the green light is on, it indicates that the device is operating normally.

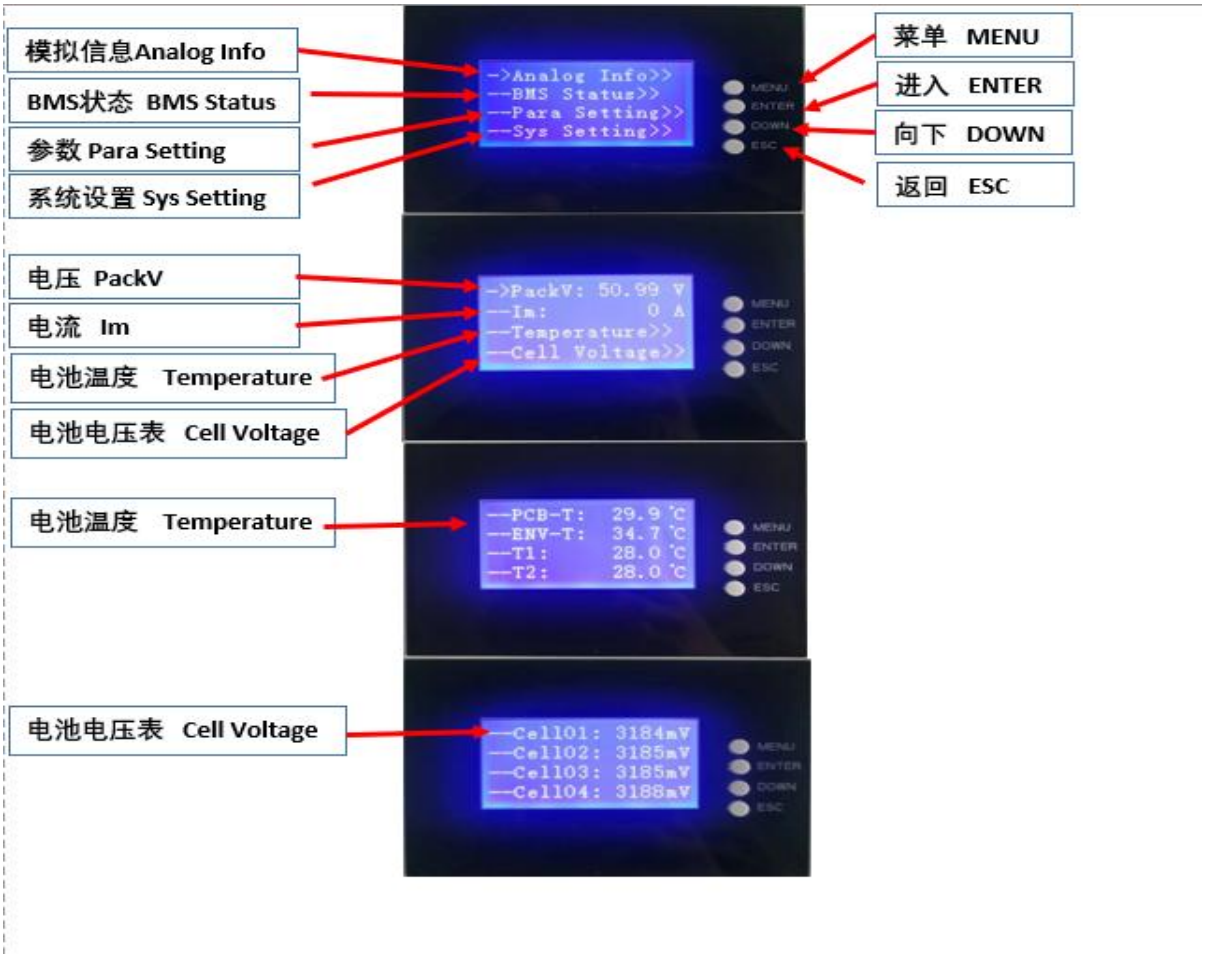
7 ALM

When the red light is on, it indicates that there is a malfunction with the device. Please check and maintain it promptly.

8 Mian connector: Dry contacts.

9 SOC: Battery pack capacity.

10 screen ： Display Operating Instructions



Note: Pictures are for reference only, please refer to the physical object.

2 Operating instructions

Safety warning:

1. Please connect the battery pack when the battery pack is turned off to prevent ignition.
2. After the installation, the startup operation can be started only after confirming that the wiring is correct.
3. When multiple groups of batteries are connected in parallel, the voltage of each group of batteries is measured with a multimeter first, and the battery pack with a pressure difference not more than 2V is selected for parallel connection.
4. The battery storage must be recharged once for more than three months. It is recommended that the battery charging voltage is 48V~51V to prevent excessive discharge of the battery.
5. The battery contains high voltage,non-professional personnel do not operate.
6. Please wear insulation gloves, and installation tools should be good insulation protection.

2.1 Wiring operation

Shut down the battery first, and then connect the battery output pole and the RS485 port to

the device, respectively.

2.2 Battery power-up

When the battery is turned off, press the switch button and release it. The LED indicator lights up for 0.5 seconds from "L1", and the battery pack enters the boot state.

2.3 Battery Shutdown

When the battery is turned on, press the switch and release it. The LED indicator lights on for 0.5 seconds from the "RUN", and then the battery pack enters the shutdown state.

2.4 Light instructions

State	Charge						discharge					
capacity indicator	L1	L2	L3	L4	L5	L6	L1	L2	L3	L4	L5	L6
0~16.6%	Always bright	extinguish	extinguish	extinguish	extinguish	extinguish	Always bright	extinguish	extinguish	extinguish	extinguish	extinguish
16.6~33.2%	Always bright	Always bright	extinguish	extinguish	extinguish	extinguish	Always bright	Always bright	extinguish	extinguish	extinguish	extinguish
33.2~49.8%	Always bright	Always bright	Always bright	extinguish	extinguish	extinguish	Always bright	Always bright	Always bright	extinguish	extinguish	extinguish
49.8~66.4%	Always bright	Always bright	Always bright	Always bright	extinguish	extinguish	Always bright	Always bright	Always bright	Always bright	extinguish	extinguish
66.4~83.0%	Always bright	Always bright	Always bright	Always bright	Always bright	extinguish	Always bright	Always bright	Always bright	Always bright	Always bright	extinguish
83.0~100%	Always bright	Always bright	Always bright	Always bright	Always bright	Always bright	Always bright	Always bright	Always bright	Always bright	Always bright	Always bright

flashing mode	bright	extinguish
Blink 1	0.25s	3.75s
Blink 2	0.5s	0.5s
Blink 3	0.5s	1.5s

2.5 Dial-up code instructions

When the battery single operation mode, the dial address should be set to 1, as shown in the figure below.

In the battery multi-machine working mode, each battery pack is configured. The dial address is set from 1 and increased in order. The dial code is in BCD code format. As shown in the table below.

The ADS encoded switch posit ion				Dial address	explain
ADS1	ADS2	ADS3	ADS4		
OFF	OFF	OFF	OFF	0	nonuse
ON	OFF	OFF	OFF	1	From machine 1 battery
OFF	ON	OFF	OFF	2	From machine 2 battery
ON	ON	OFF	OFF	3	From the machine 3 battery
OFF	OFF	ON	OFF	4	From machine 4 battery
ON	OFF	ON	OFF	5	From machine 5 battery
OFF	ON	ON	OFF	6	From the machine 6 battery
ON	ON	ON	OFF	7	From machine 7 battery
OFF	OFF	OFF	ON	8	From machine 8 battery
ON	OFF	OFF	ON	9	From machine 9 battery
OFF	ON	OFF	ON	10	From the machine 10

					battery
ON	ON	OFF	ON	11	From machine 11 battery
OFF	OFF	ON	ON	12	From the machine 12 battery
ON	OFF	ON	ON	13	From the machine 13 battery
OFF	ON	ON	ON	14	From the machine 14 battery
ON	ON	ON	ON	15	From the machine 15 battery

2.6 RS485 interface

The RS485 interface of the battery can communicate with the upper computer or equipment, and realize the parallel communication between the battery packs when multiple machines are in parallel. Communication specification refer to the communication protocol specification. The connection mode of the single-machine communication line is shown in the figure below.

RS232--Using 6P6C vertical RJ11 socket	
RJ11	Definition description
2	NC
3	TX
4	RX
5	GND

RS485--Using 8P8C vertical RJ45 socket		CAN--Using 8P8C vertical RJ45 socket	
RJ45	Definition description	RJ45	Definition description
1、8	RS485-B1	9、10、11、14、16	NC
2、7	RS485-A1	12	CANL
3、6	GND	13	CANH
4、5	NC	15	GND

CAN and RS485 interface

RS485--Using 8P8C vertical RJ45 socket		RS485--Using 8P8C vertical RJ45 socket	
RJ45	Definition description	RJ45	Definition description
1、8	RS485-B	9、16	RS485-B
2、7	RS485-A	10、15	RS485-A
3、6	GND	11、14	GND
4、5	NC	12、13	NC

Parallel communication port

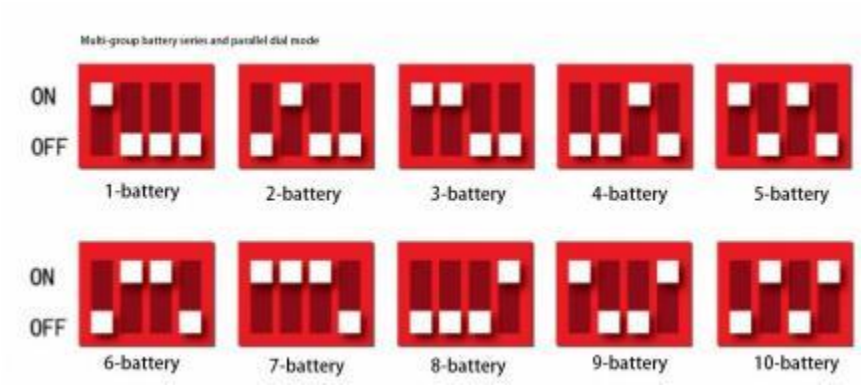
2.7 Multi-machine parallel operation

When multiple sets of batteries are connected in parallel, the battery voltage of each group is measured according to a multimeter first, and the battery pack with a pressure difference not more than 2V is selected for parallel connection.

2.7.1 Dial-up Code Settings

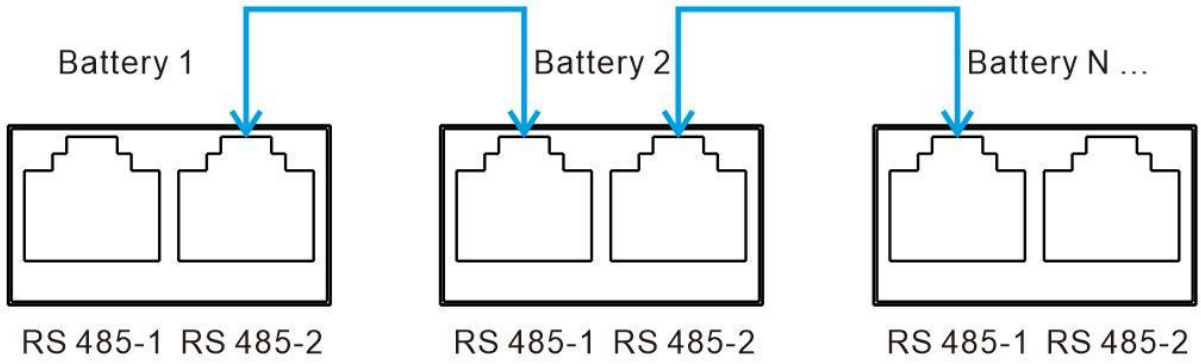
When multiple sets of batteries are needed to be used in parallel, the dialing address should be configured for each battery pack under the battery shutdown state. The dialing address is set starting from 1 and increased in order, as shown in the figure below. After the dial code setting,

press the reset button to start it on, then press the long button and press the reset button to the horse running light is on, shutdown, and the dial code setting is complete.



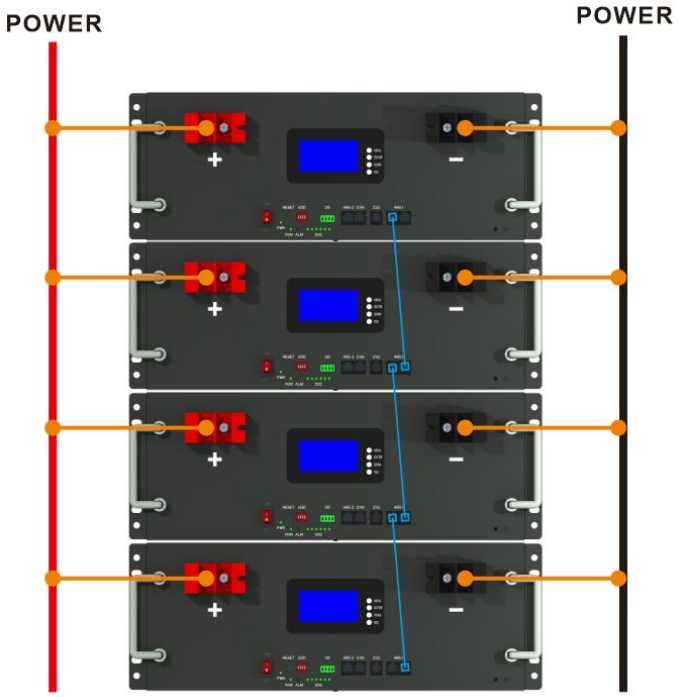
2.7.2 Communication line connection

When the battery is shut off, the RS485 interface of each battery is connected through the standard network cable, and any remaining RS485 interface is connected to the device or the upper computer for communication. The connection mode of the multi-machine parallel communication line is shown in the figure below.



2.7.3 Power line connection

When the battery is turned off, the output terminals of each group of batteries are connected to the busbar or main busbar. It is strictly prohibited to connect the battery output in parallel and ultimately connect it to the device through a busbar. Refer to the four sets of batteries shown in the following figure.



3 Charging instructions

3.1 The charging current and charging voltage of the battery pack shall not exceed the maximum value specified in the technical specification of the user manual.

3.2 The charging temperature shall not exceed the charging temperature range specified in the technical specification of the user manual.

3.3 Charging of battery for a long time and reverse charging of battery is prohibited.

3.4 The charging parameters of the charger shall comply with the technical specifications of the product.

3.5 The use of the current, voltage and temperature range beyond the requirements of the product technical specifications will affect the life of the battery pack or cause damage to the battery pack, which may cause safety performance problems.

The ALM alarm light is lit	The battery is in the underpressure, overcurrent, overtemperature and other alarm or protection state	First, query the 4.4.2 status indicator table, determine the cause of the alarm, and then solve it. For example, please charge the battery during the underpressure alarm; during the overcurrent alarm, please check whether the equipment status is normal; during the overtemperature alarm, check whether the ambient temperature is too high.
Battery discharge time is	Battery charging is insufficient	Keep the mains supply for more than 8 hours and recharge the battery

short	Output overload	Check the load usage and remove the non-critical equipment
	Battery aging capacity decreases	Replace the battery

4 Installation and Configuration:

4.1: Preparations for installation

Safety Requirement

This system can only be installed by personnel who have been trained in the power supply system and have

sufficient knowledge of the power system.

The safety regulations and local safety regulations listed below should always be followed during the installation.

All circuits connected to this power system with an external voltage of less than 48V must meet the SELV

requirements defined in the IEC60950 standard. If operating within the power system cabinet, make sure the power system is not charged. Battery devices should also be switched off. Distribution cable wiring should be reasonable and has the protective measures to avoid touching these cables while operation power equipment.

! When installing the battery system, must wear the protective items below:

The isolation gloves Safety goggles Safety shoes

4.2: Working temperature: -10℃~+50℃

Charging temperature range is 0℃~+50℃

Discharging temperature range is -10 ℃ ~+50℃Relative humidity: 4%~100%RH (No condensed water)

Elevation: no more than 4000m

Operating environment: Indoor or outdoor installation, sites avoid the sun and no wind, no conductive dust and corrosive gas.

And the following conditions are met:

Installation location should be away from the sea to avoid brine and high humidity environment.

The ground is flat and level.

There is no flammable explosive near to the installation places.

The optimal ambient temperature is +15℃~+30℃.

Keep away from dust and messy zones.

4.3: The battery box shall not be hung on the wall, should be embedded in the cabinet screws fixed on both sides of the hanging ears.