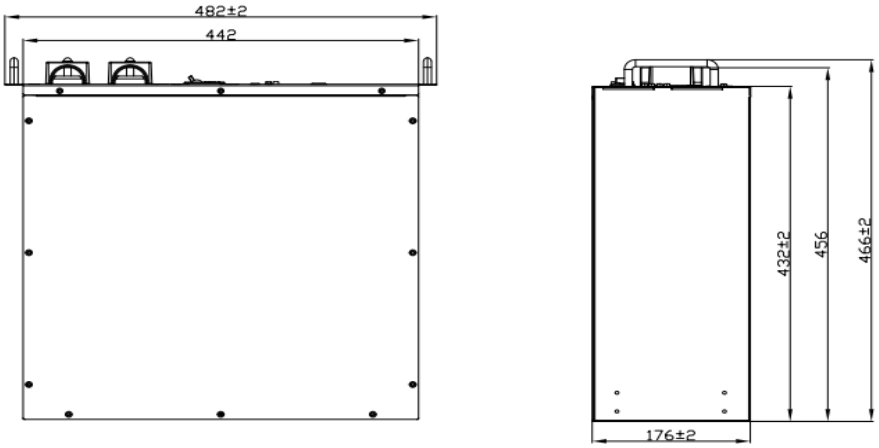
J4U48100 Lithium Iron Phosphate Battery Residential Energy Storage System

user's manual

1 Technical Data

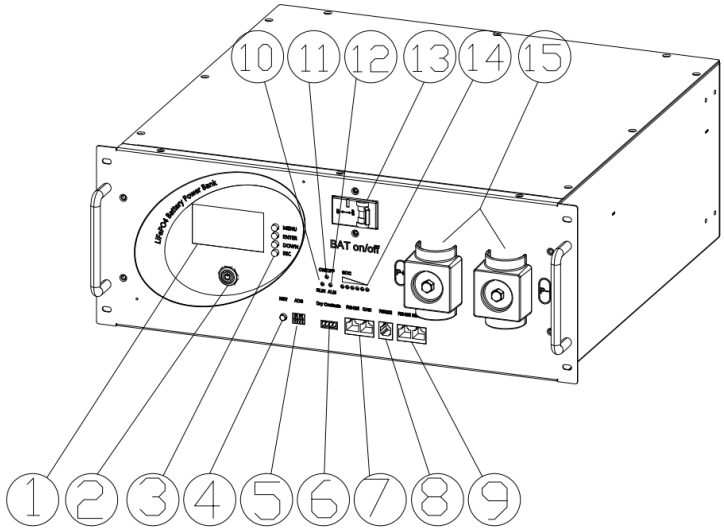
Model	J4U48100
Total Energy	5kwh
Battery Type	LiFeP 4
Normal Voltage	51.2V
Normal Capacity	100Ah
Max.Charge/ Discharge Current	100A
Cycle Life	>6000cycle
Communication interface	RS232/RS485/CAN
Dimension(L*W*H)	482*466*176MM
IP Grade	IP21&IP65
Inverter	Match all hybrid and off grid inverter brands in the world
Installation	Built-in Cabinet /On the floor
Weight	45Kg
PackImpedance(without BMS)	<20mΩ
Upper charge voltage	57.6±0.1V
Lower Discharge voltage	43.2±0.1V
Operating Temperature	charge：0～55℃
	discharge:-15～55℃
Operating Humidity	5～95℃ RH
Storage Temperature	-20-55℃(Long-term storage at high temperatures>=35°℃)is not recommended.)



2 Product Appearance

The battery is an energy storage unit composed of cells, mechanical parts, battery management system (BMS) as well as power and signal terminals.

Table 2-1 Ports and terminals



No.	Label	Name
1	LCD	Display battery information
2	switch button	Battery switch
3	Battery button	Follow the prompt button to view information
4	reset	Battery fault reset
5	Dialing	Battery parallel binary four digit dialing code
6	DRY CONTACT	Status Detection、signalling、Safety protection
7	RS485/CAN	Communication between battery and inverter
8	RS232	Battery and PC communication
9	RS485 part1 RS485 part2	Battery parallel communication
10	RUN	Battery running light
11	ON/OFF	Battery switch light
12	ALM	Fault display light
13	Air button	Battery protection air switch
14	SOC	Display the battery capacity
15	+/-	Positive and negative power terminals

Table 2-2 Button description of display

① After power on /sleep activation, the welcome interface will bedisplayed . Press the" MENU " key to enter the main menu page

② When the cursor "》 " points to "battery parameter collection",press"ENTER" to enter the"battery parameter collection" page

③ Each item starts with "》 " or ".",where "》 " indicates the currentcursor position. Press down to move the cursor position downward.Items ending with "》 " indicate that the item has contents that are notdisplayed. Press enter to“ ENTER " the corresponding page

④ Press " ESC " to return to the previous directory; At any position.press the menu key to return to the main " MENU " page

⑤ In the sleep state,operate any key to activate the display screen

Table 2-3 LED Indicator Definition

state	Normal/Alarm/ Protection	RUN	ALM	Power indicator LED				describe
		●	●	L4 ●	L3 ●	L2 ●	L1 ●	
Shutdown	hibernate	OFF	OFF	OFF	OFF	OFF	OFF	Completely extinguished
Standby	Normal	Flash 1	OFF	According to the battery level display				Standby mode
	Alarm	Flash 1	Flash 3					Smodule low voltage
charge	Normal	Light	OFF	According to the battery level display (The power indicator LED flashes up to 2)				The highest battery LED flashes (flashes 2), and the overcharge alarm ALM does not flash
	Alarm	Light	Flash 3					
	overcharge protection	Light	OFF	Light	Light	Light	Light	If there is no mains power, the indicator light is in standby mode
	Temperature, overcurrent, and failure protection	OFF	Light	OFF	OFF	OFF	OFF	Stop charging
discharge	Normal	Flash 3	OFF	According to the battery level display				
	Alarm	Flash 3	Flash 3					
	overcharge protection	OFF	OFF	OFF	OFF	OFF	OFF	Stop discharging
	Temperature, overcurrent, and failure protection	OFF	Light	OFF	OFF	OFF	OFF	Stop discharging
lose efficacy		OFF	Light	OFF	OFF	OFF	OFF	Stop charging and discharging

state		charge				discharge			
Capacity indicator light		L4●	L3●	L2●	L1●	L4●	L3●	L2●	L1●
Electricity consumption (%)	0～25%	OFF	OFF	OFF	Flash 2	OFF	OFF	OFF	Light
	25～50%	OFF	OFF	Flash 2	Light	OFF	OFF	Light	Light
	50～75%	OFF	Flash 2	Light	Light	OFF	Light	Light	Light
	75～100%	Flash 2	Light	Light	Light	Light	Light	Light	Light
Operation indicator ●		Light				Flashing (Flashing 3)			

Flash mode	Light	OFF
Flash 1	0.25S	0.35S
Flash 2	0.5S	0.5S
Flash 3	0.5S	1.5S

Table 2-4 Parallel dialing code setting

Users can dial codes according to the chart based on the number of batteries. Incorrect dialing can cause communication between battery packs. This battery supports up to 15 parallel units.

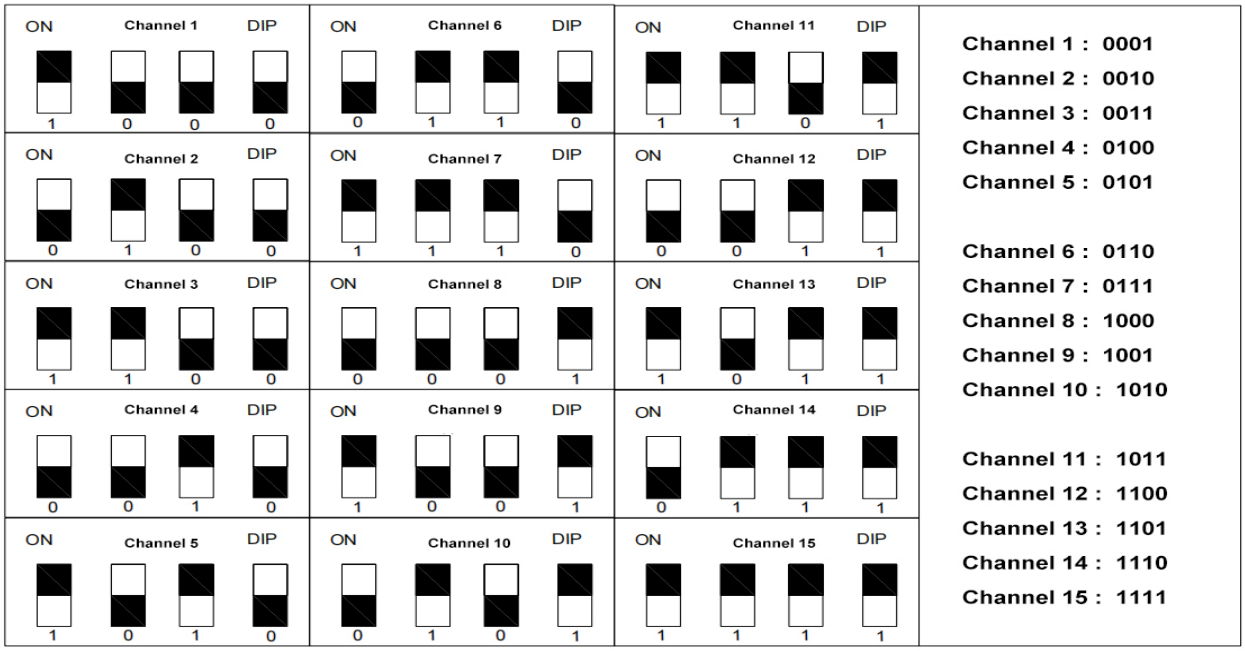
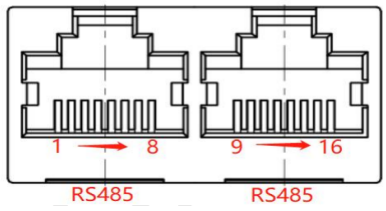
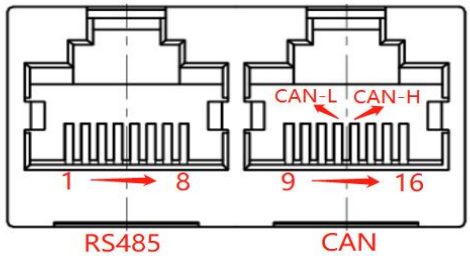


Table 2-5 Communication line sequence

RS232--using 6P6C vertical RJ11 socket	
RJ11 PIN	Definition
2	NC
3	TX(veneer)
4	RX(veneer)
5	GND
USB port wiring information	
1	OUT 5V
2	232TX
3	232RX
4	GND



RS485- using 8P8C vertical RJ45 socket		RS485- using 8P8C vertical RJ45 socket	
RJ45 pin	Definition Description	RJ45 pin	Definition Description
1、8	RS485-B	9、16	RS485-B
2、7	RS485-A	10、15	RS485-A
3、6	GND	11、13、14	GND
4	UP_IN	12	DN_OP+
5	NC		



RS485- using 8P8C vertical RJ45 socket		CAN- using 8P8C vertical RJ45 socket	
RJ45 pin	Definition Description	RJ45 pin	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

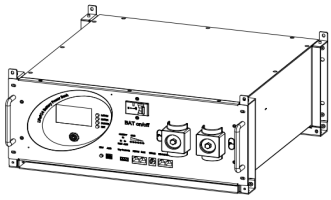
Read this Guidance carefully before installation to understand product features and safety precautions.

WARNING

*Operators should be well trained to fully understand grid-connected photovoltaic power system and national/regional standards.
*Installers must use insulating tools and wear safety equipment.
*Device damages caused by noncompliance with storage, transportation, installation and usage requirements specifed in Quick Guidance and Manual are not covered by Warranty.

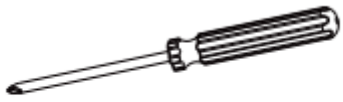
3 Product installation

Table 3-1 Battery accessory kit



user manual

Table 3-2 Tools and Protective Equipment



Cross-head screwdriver

Tape measure

Multi-meter

Insulated gloves

Safety goggles

Rubber boots

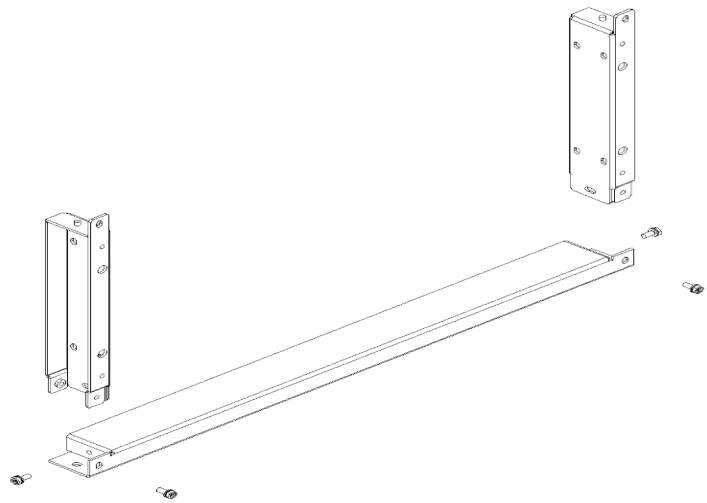
To prevent injury, always wear acid-resistant clothing, PVC gloves, goggles and rubber boots during installation and operation.

Table 3-3 Stackable Installation with Bracket Support

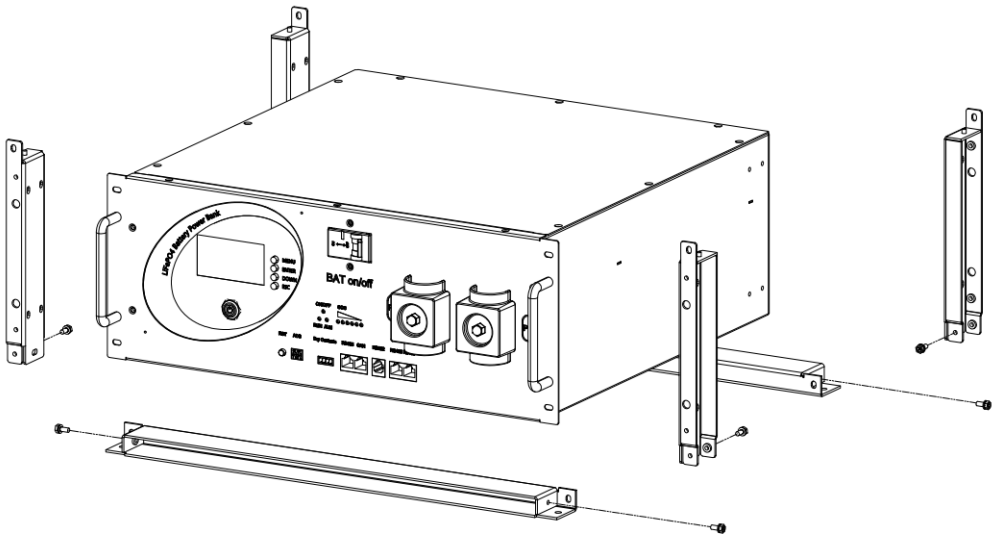
Before installing battery, remove conductive ornaments such as watch, bracelet, and rings and wear protection equipment.

Check and confrm the battery is powered of and battery breakers are turned of before any process.

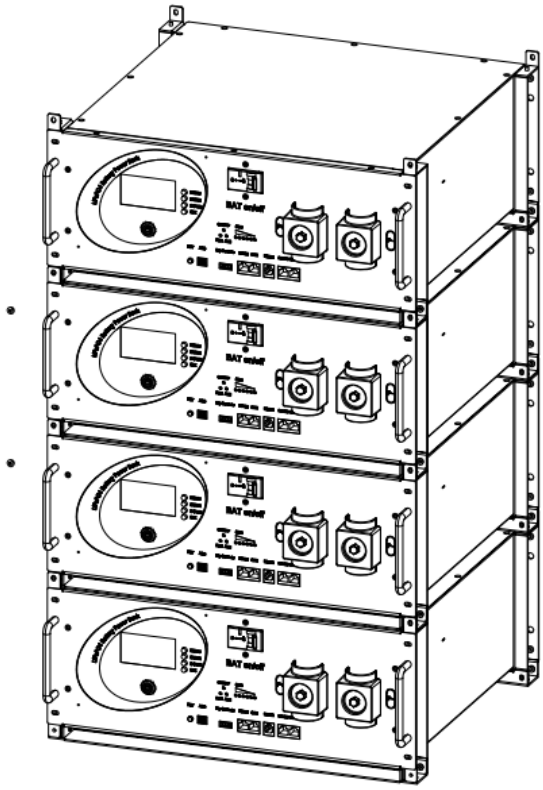
Step1 Prepare support brackets.

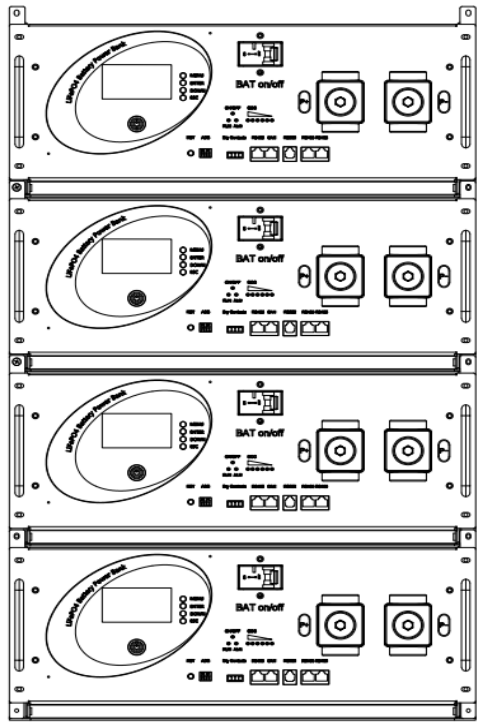


Step 2 Directly fix it on the battery box



Step 3 Vertically stack each individual battery





The battery stack can be placed in standing position or panel upward.It is strictly prohibited to have the battery pack panel facing downwards

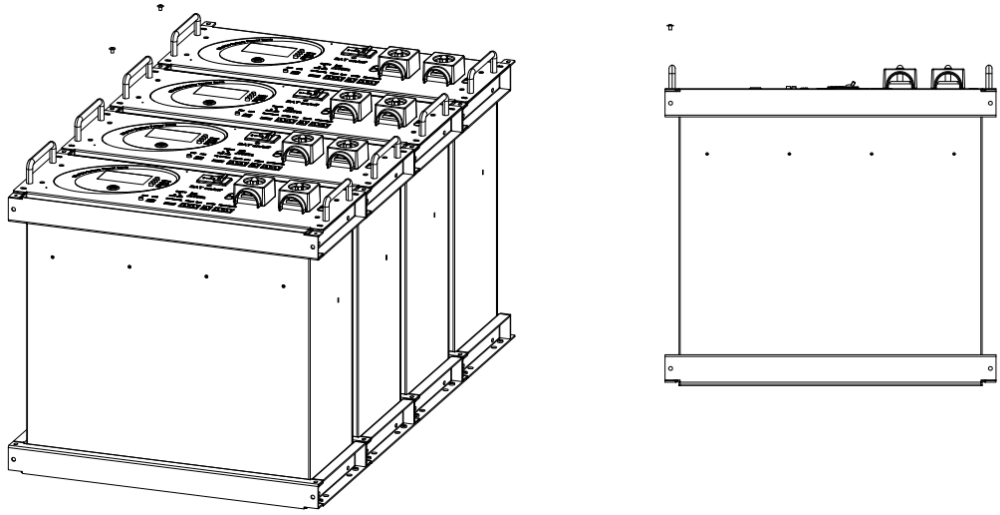
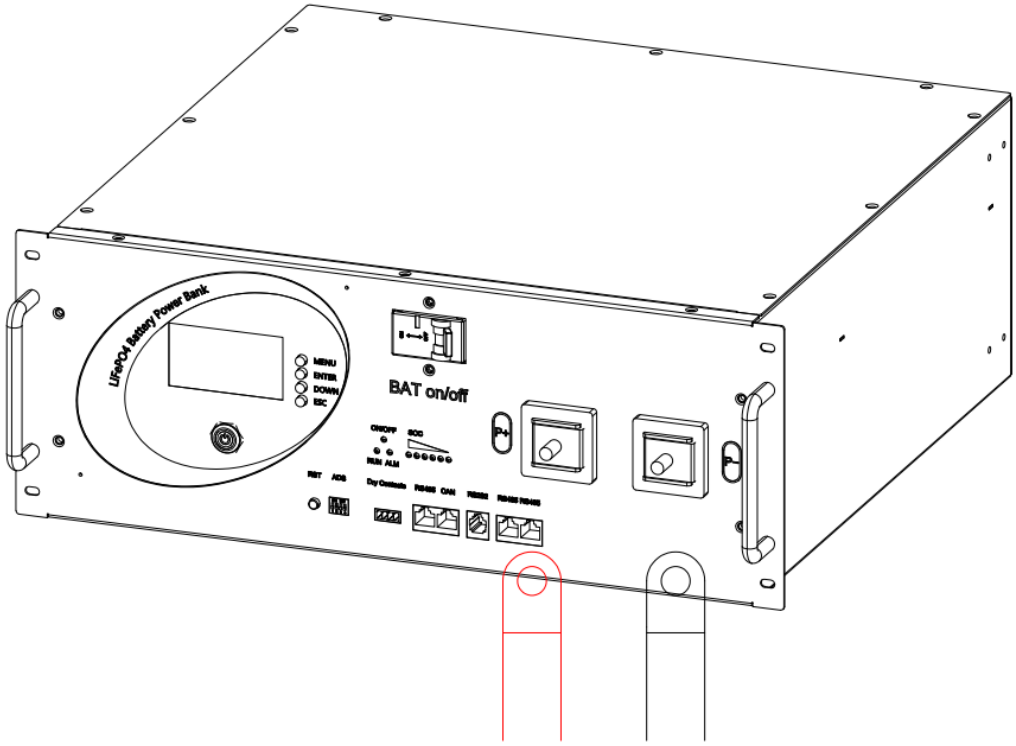


Table 3-4 Battery port wiring



Used in conjunction with battery cables, the battery cable uses SC25-8 terminals, with the other end connected to the positive and negative poles of the inverter

Table 3-5 Communication line access

Users can choose RS485/CAN to connect to the inverter according to their needs, RS232 to connect to the computer, and view the real-time status of the battery through the upper computer