ES019-422.4V150Ah User Manual

1 Introduction

1.1 Brief introduction

This manual will provide detailed product information and installation for using lithium batteries. Please read this manual before using this product, and store this manual in a place that is convenient for installation, operation, and maintenance personnel. Our company will not notify users of any changes to this manual.

1.2 Applicable personnel

We recommend that you clearly know which Inverter/PCS you need before purchasing the battery. Our company provides lithium batteries for using with Inverters/PCS for the time being. We strongly recommend that installers read this manual carefully. By reading this manual, you can obtain guidance on product installation, troubleshooting, and communication networking.

1.3 Safety instructions

1) You must clearly know which Inverter/PCS you need to use. If the battery and power supply are matched incorrectly, the system will not work.

2) Be sure to read this manual before operation. Our company will not be liable for any failure or loss caused by improper operation.

3) All wiring, installation, debugging and other work should be completed by relevant professionals.

4) During the installation process, please do not touch any components in the junction box under the energy storage.

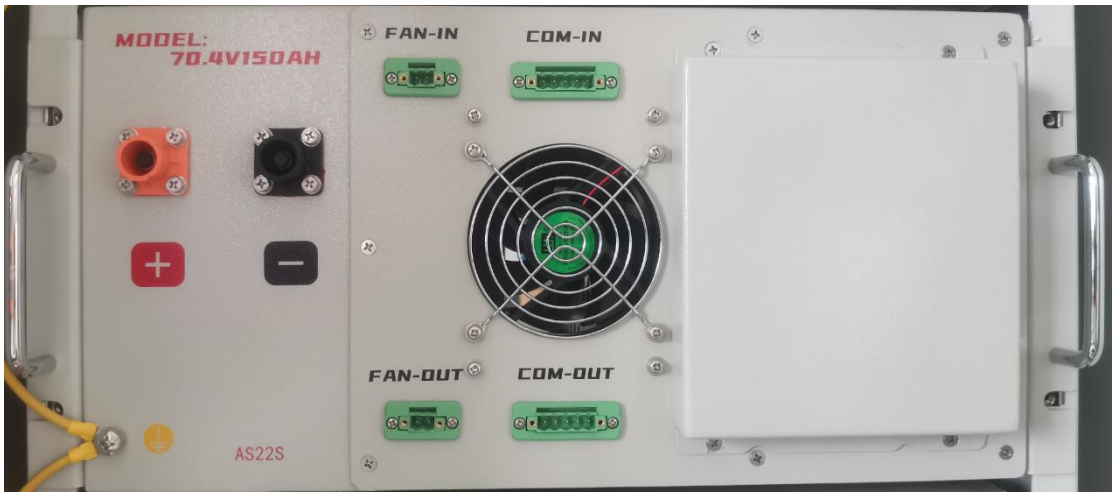
5) All electrical connections must comply with the safety regulations of the local power grid company.

6) If the system needs maintenance, please contact our local authorized operation and maintenance service personnel or Enershare.

2 Product Overview

2.1 Illustrations and definitions

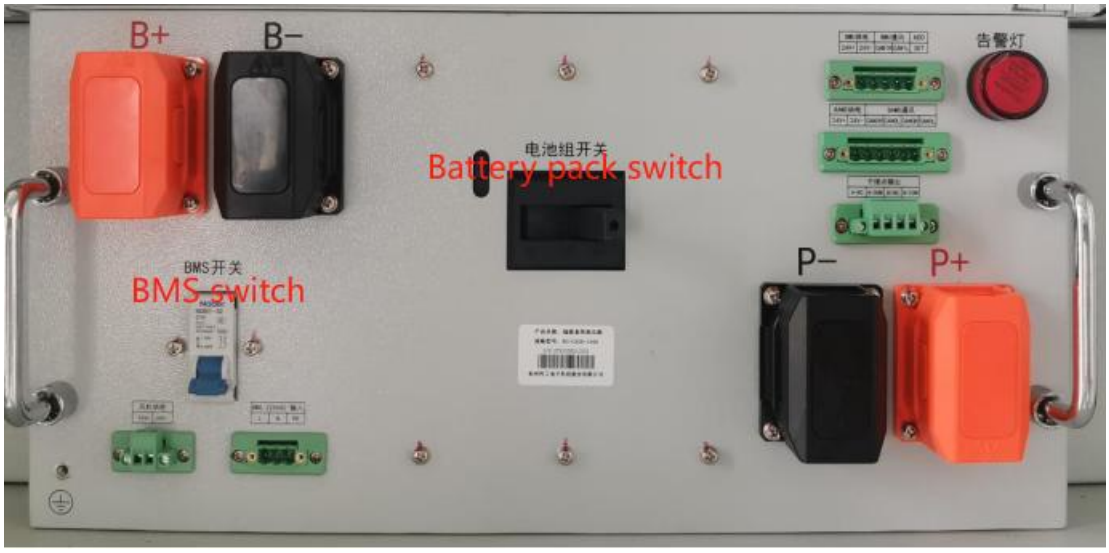
Battery front



Location	Item	Definition
Battery front	COM-IN	BMU communication input (From right to left) 24V+ 24V- CANH CANL Adr
	COM-OUT	BMU communication output (From right to left) 24V+ 24V- CANH CANL Adr
	FAN-IN	Fan power supply port

		(From left to right) 24V+ 24V-
	FAN-OUT	Fan power supply port (From left to right) 24V+ 24V-
	+	Positive electrode
	-	Negative electrode
		GND

High voltage box front



Location	Item	Definition
Front	B-	Input negative terminal (connected to Battery box B1-)
	B+	Input positive pole (connected to Battery box B6+)
	P-	Output negative pole (connected to inverter-)
	P+	Output positive pole (connected to inverter+)
	BMU communication port	Battery communication port (connected to battery box COM communication port) From left to right: 24V+ 24V- CANH CANL Adr
	BAMS communication port	BAMS communication port (connected to BAMS display screen) From left to right: 24V+ 24V- CANH CANL

		CANH CANL
	Dry junction	NC COM
	Battery pack switch	Battery high-voltage circuit breaker
	BMS switch	BMS switch
	Fan power supply	From left to right: 24V+ 24V-
	BMS 220V input	From left to right: L N PE
	⏚	GND

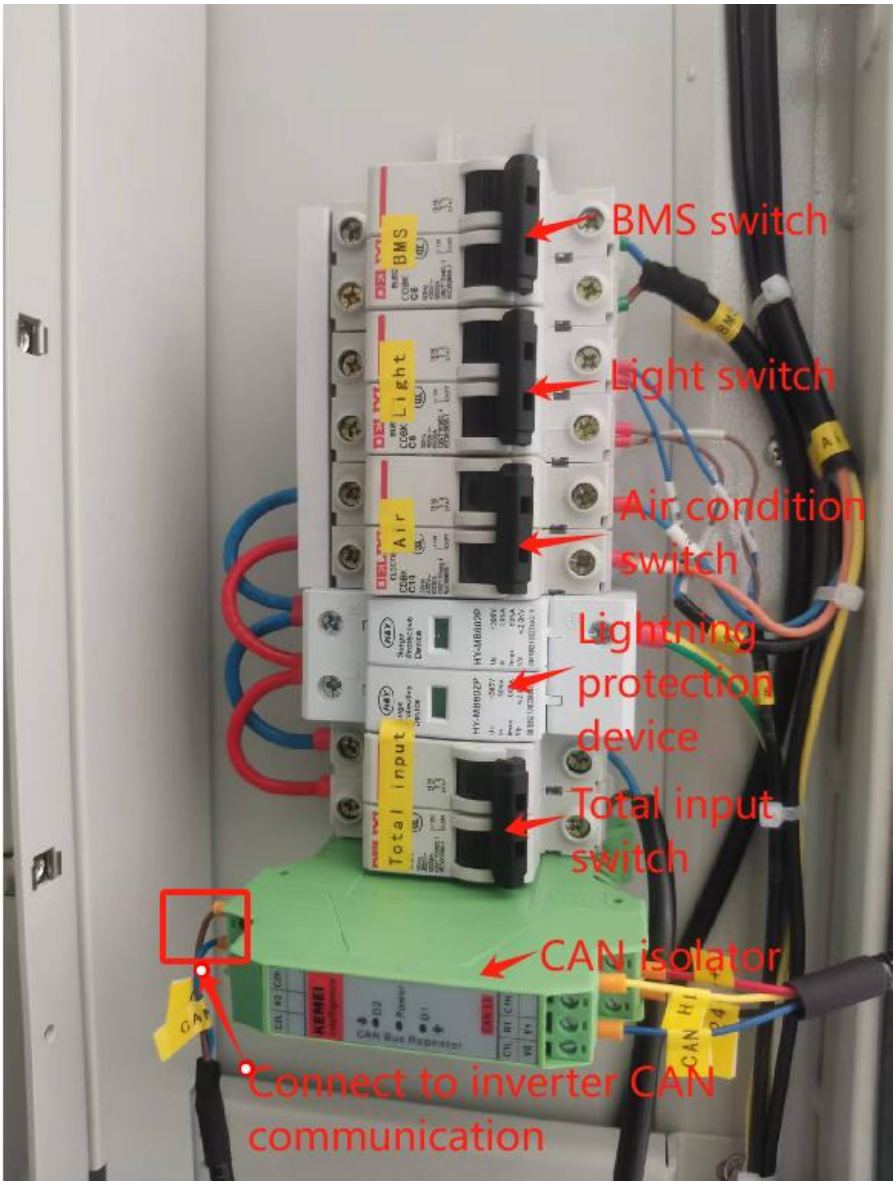
Front of display screen

The display screen is a touch button that can view the voltage, current, all cells voltage, temperature, alarm information, etc. of the battery

On the back of the display scree

Location	Item	Definition
On the back of the display screen	Power supply	24V+ 24V- (connected to the BAMS power supply port of the high-voltage box)
	COM-J2	7: CAN0H 8: CAN0L (connected to the BAMS communication port of the high-voltage box) 4: CAN1H 5: CAN1L (Connect to inverter CAN communication)

Distribution board

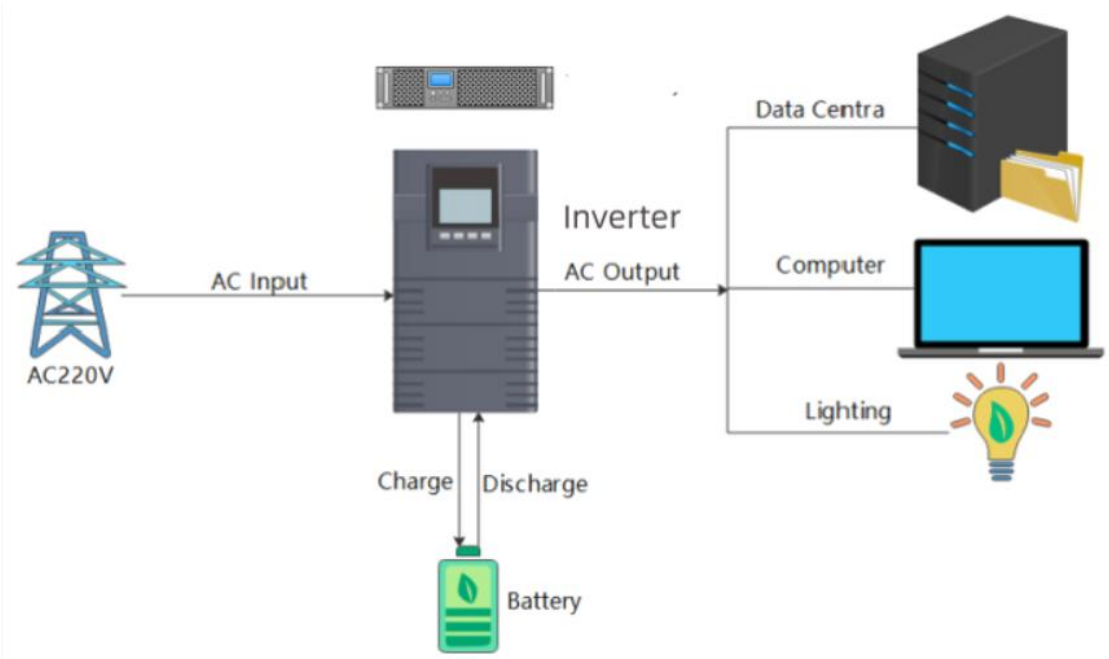


Air conditioner

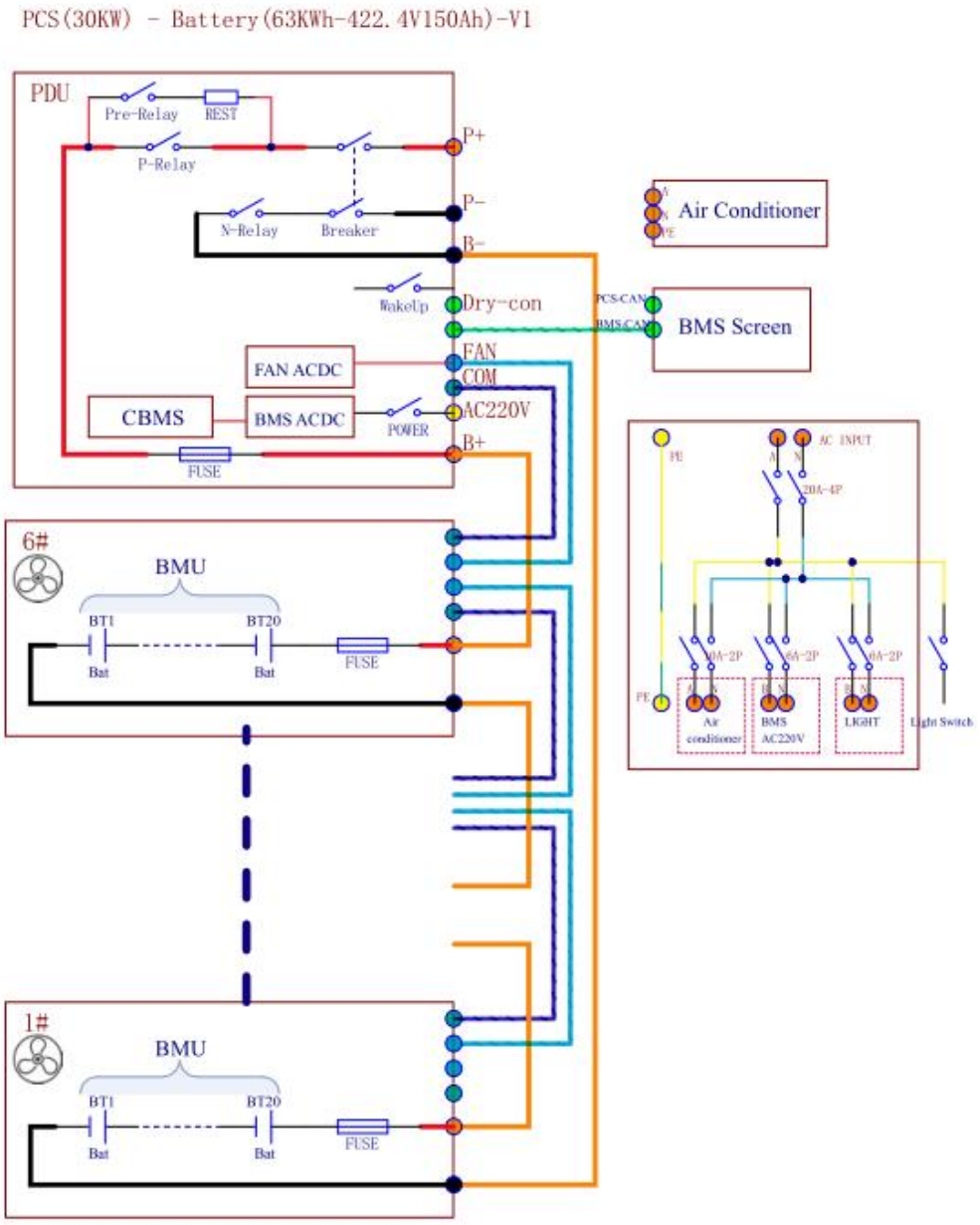
No.	Item	Specification
1	Cooling Capacity	1500W
2	Air flow	320m³/h
3	Heating capacity	1000W
4	Protection level	IP55
5	Power supply	AC220V,50Hz

6	Full load current	4.6A
7	Installation	Wall-mounted
8	size	（W x D x H = 750 x 450 x 200）±10mm
9	Weight	24Kg

2.2 System diagram



2.3 Electrical schematic diagram



3 System parameters

No.	Item	Technical index	Remarks
1	Energy storage	63kwh	
2	Rated capacity	150Ah	
3	Rated voltage	422.4V	
4	Working voltage range	383V～481V	
5	Rated charging current	75A	
6	Maximum continuous charging current	100A	
7	Rated discharge current	75A	
8	Maximum continuous discharge current	100A	
9	Communication methods	CAN	
10	Size specifications	High voltage box: WxHxD=440×220× 480mm Battery box: WxHxD=440×220×740mm Cabinet: WxHxD=750×1420×2000mm	±10mm

4 Open box to check

Please confirm that the product packaging is not damaged before opening the box. After unpacking, please carefully inspect the product for any damage or missing accessories. If there is any damage or missing accessories, please contact the supplier directly for assistance.

Unpacking list:

NO.	Item	Describe	Quantity
1	Cabinet	W x D x H = 750×1420×2000mm	1
2	High voltage box	Including BCMU motherboard	1
3	BAMS display screen	7-inch touch screen, GBMS three-level motherboard	1
4	22 series battery box	70.4V150AH battery, including BMU slave board, locking ground screw	6
5	Air-conditioner	1500W	1
6	Warranty card	Hand signed	1
7	Certificate of	Seal	1

	conformity		
8	Shipping report	Print, hand sign, stamp	1
9	Ground wire	Including inter box ground wire and high-voltage box ground wire	1 whole set
10	Communication line	Including communication lines between battery boxes and communication lines between high-voltage boxes and display screens	1 whole set
11	Power line	Including power lines between boxes, B- power lines, B+ power lines，, P- power lines, and P+ power lines	1 whole set
12	High voltage box power supply line	Including L N G	1
13	Distribution board	Including main switch, BMS switch, air conditioning switch, lighting switch, and lightning protection device	1 whole set

5 Basic installation requirements

1. Ensure that the ground and walls where the battery is placed are level,

In order to ensure good heat dissipation of the machine and convenient operation and maintenance by personnel, sufficient clearance should be left for the machine during installation;

3. Do not choose the installation location that children can reach;

4. Do not place flammable or explosive materials around the battery to avoid unnecessary danger.

Installation tools

NO.	Item
1	Terminal crimping pliers
2	Open end pliers
3	Dismantling wrench
4	Adjustable wrench
5	Screwdriver
6	Hammer
7	Electric screwdriver

6 Installation process

6.1 Appearance diagram

Front Back

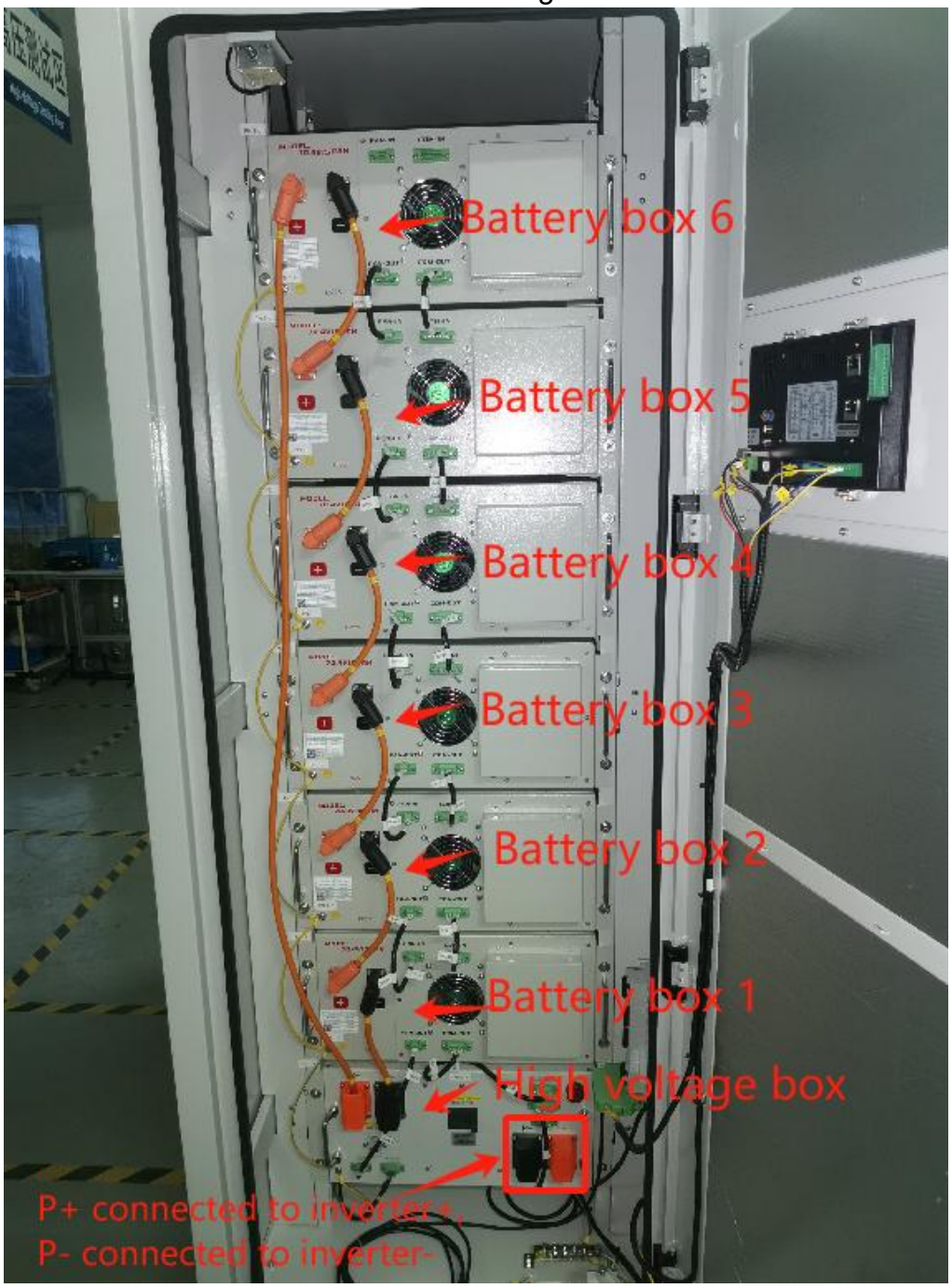
6.2 Installation steps:

1. Fix the battery rack on the ground;
2. Install the handles on both sides of the battery box.
3. Install 6 battery boxes and 1 high-voltage box according to the label number corresponding to the rack label. Use screws to secure the handles of the battery box and high-voltage box to the rack.
4. Connect the yellow green ground wire: The ground wire holes of the battery box and high-voltage box are connected using a yellow green ground wire.
5. Connect communication cables: The BMU communication ports of the high-voltage box are sequentially connected to the COM communication ports of 6 battery boxes; The BAMS communication port of the high-voltage box is connected to the BAMS display screen 24V and the communication port CAN0.
6. Connect the power line: B- from the high-voltage box to - (B1-) from the 1st battery box, +(B1+) from the 1st battery box to -(B2-) from the 2nd battery box, +(B2+) from the 2nd battery box to -(B3-) from the 3rd battery box... +(B6+) from the 6rd battery box to B+ from the high-voltage box. The P- of the high-voltage box is connected to inverter - , and the P+ of the high-voltage box is connected to inverter + .
7. High voltage box 220V power line: The 220V power line of the high voltage box is connected to the BMS switch of the distribution board.
8. Distribution board main input switch: connected to AC220V mains power.
9. Air conditioning power cord: Connect the power distribution board air conditioning switch.

10. Lighting power cord: Connect the lighting switch to the distribution board.

Please refer to the following diagram for specific installation details.

Installation diagram

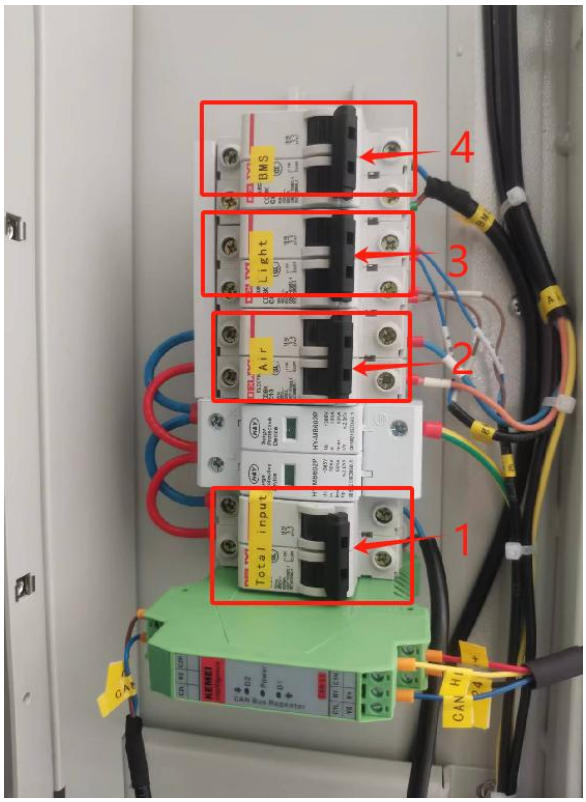


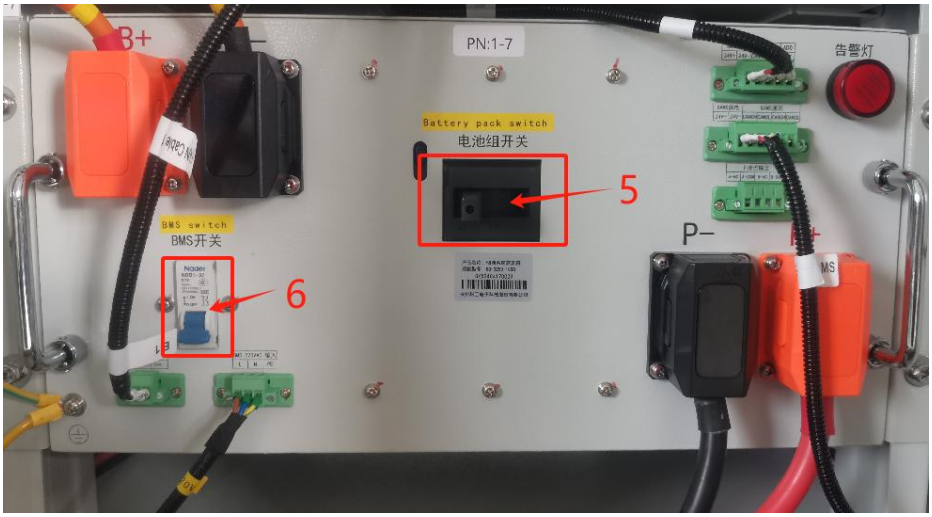
7 Power on and off

7.1 Startup steps

1. Close the total input switch of the distribution board.
2. Close the air conditioner switch on the distribution board.
3. Close the light switch of the distribution board.
4. Close the BMS switch of the distribution board.
5. Close the battery pack switch of the high-voltage box.

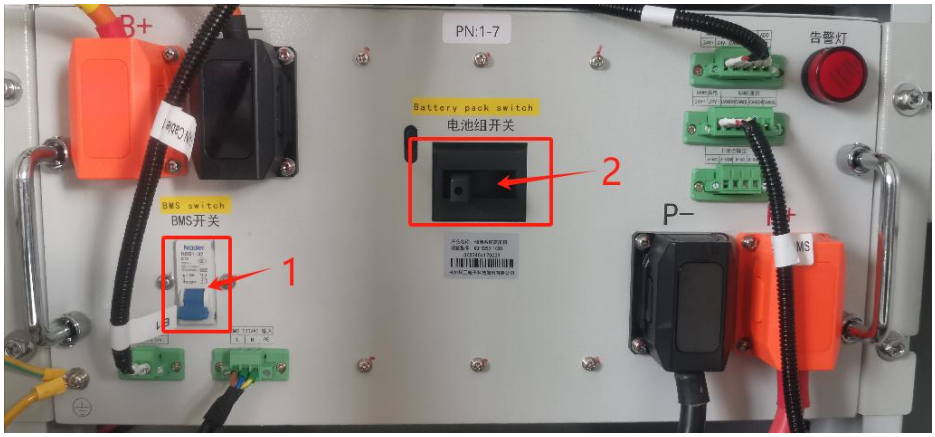
6. Close the BMS switch of the high-voltage box.

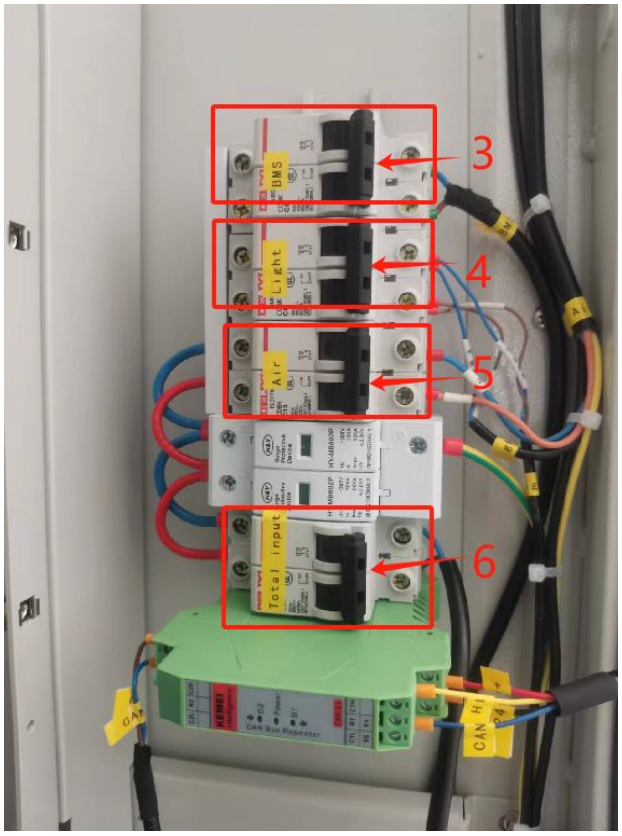




7.2 Shutdown steps:

1. Disconnect the BMS switch of the high-voltage box.
2. Disconnect the battery pack switch of the high-voltage box.
3. Disconnect the BMS switch of the distribution board.
4. Disconnect the light switch of the distribution board.
5. Disconnect the air conditioner switch from the distribution board.
6. Disconnect the total switch of the distribution board.





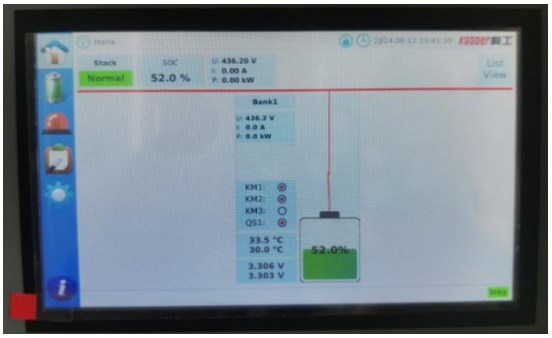
8 Disassembly steps:

1. Confirm that the battery system and inverter are turned off, and that the inverter is disconnected from the power grid.
2. Remove the power line connecting the high-voltage box "B+" to the 6rd battery box "+（B6+）";
3. Remove the power line connecting the high-voltage box "B-" to the 1st battery box "-(B1-)";
4. Remove the power line connecting the battery boxes;
5. Remove the power line connecting the high-voltage box "P+" and inverter "+";
6. Remove the power line connecting the high-voltage box "P -" and inverter "-";
7. Dismantle communication lines;
8. Remove the ground wire;

9. Remove the screws from the handle of the battery box and remove the battery box and high-voltage box.

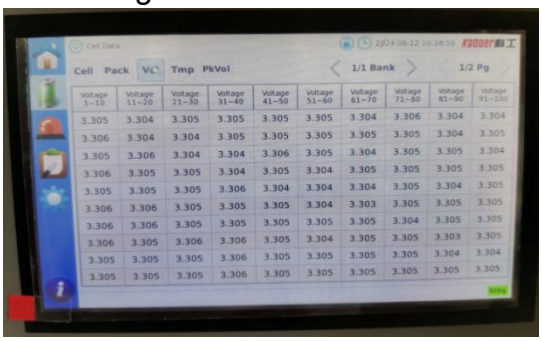
9 Display screen information

Main interface

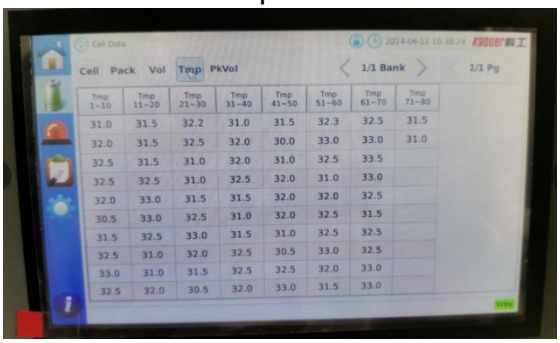


Detailed information

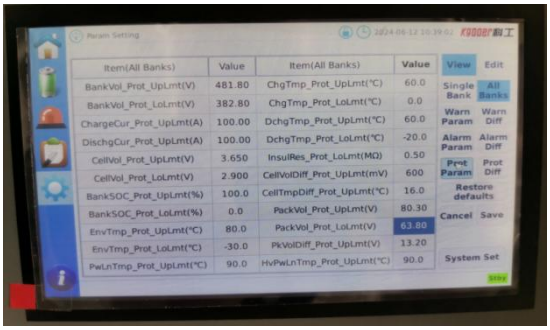
Cell voltage



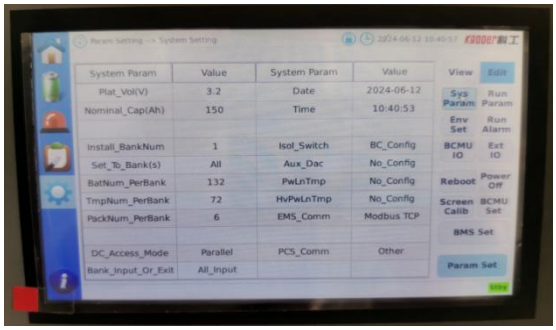
Temperature



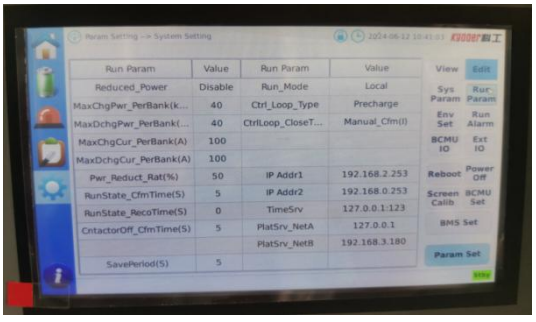
Protection parameters



System parameter



Operating parameters



Parameter editing password:1111

10 Troubleshooting

Our products have been strictly tested before they leave the factory. If there are operating difficulties during installation and use, please read the relevant chapters of this manual. When a failure occurs, please inform our company and provide relevant information about the inverter. We will have professional after-sales service personnel will answer for you.
The information you need to provide includes:

- Model
- LCD display information
- A short description of the problem
- Battery voltage
- Grid voltage and frequency
- Battery capacity
- Battery output voltage
- Battery purchase time

Warning message		
Accident details	Description	Suggestion
The battery cannot be turned on	Display does not light up	Disconnect the positive and negative poles of the battery, restart the battery, if it still reports an error, please contact the manufacturer
Voltage failure	View LED instructions Or view battery data	Check the battery data, if the lowest voltage is less than 2V, please contact the manufacturer
Temperature failure	View display instructions Or view battery data	Check whether the ambient temperature exceeds the charging and discharging temperature of the battery
Current failure	View display instructions Or view battery data	Disconnect the positive and negative poles of the battery, restart the battery, if it still reports an error, please contact the manufacturer
Short circuit fault	View display instructions Or view battery data	Disconnect the positive and negative poles of the battery, restart the battery, if it still reports an error, please contact the manufacturer
Inverter/PCS communication failure	The inverter/PCS cannot obtain battery data	1. Check whether the battery interface definition is the same as the inverter interface definition; 2. Check whether the battery communication protocol is the same as the inverter protocol

11 Quality promise

For products that fail during the warranty period, our company will repair or replace them with new products free of charge.

Warranty products require that the company requires customers to provide invoices and dates for purchasing products during the warranty period. At the same time, the trademark on the product should be clearly visible, otherwise it has the right not to guarantee the quality. The replaced product will be handled by our company, and the customer should allow the company a certain amount of time to deal with the failure.

Exemption

The company reserves the right not to guarantee quality if the following situations occur:

- Beyond the free warranty period
- Incorrect installation, modification or use
- Operation beyond the very harsh environment described in this manual
- Machine failure or damage caused by unauthorized installation, repair, modification or disassembly
- Machine failure or damage caused by the use of non-standard components or software
- Anything beyond the scope of installation and use specified in relevant international standards
- Damage caused by abnormal natural environment

If the product fails due to the above situation, the customer requires maintenance service. After the judgment of the company's service organization, paid maintenance services can be provided.

12 Contact

If you have any questions about our products, please contact our after-sales service hotline or distributors. When inquiring, please provide the following information:

1. Fault information
2. Display information
3. Battery model
4. Battery capacity and connection method