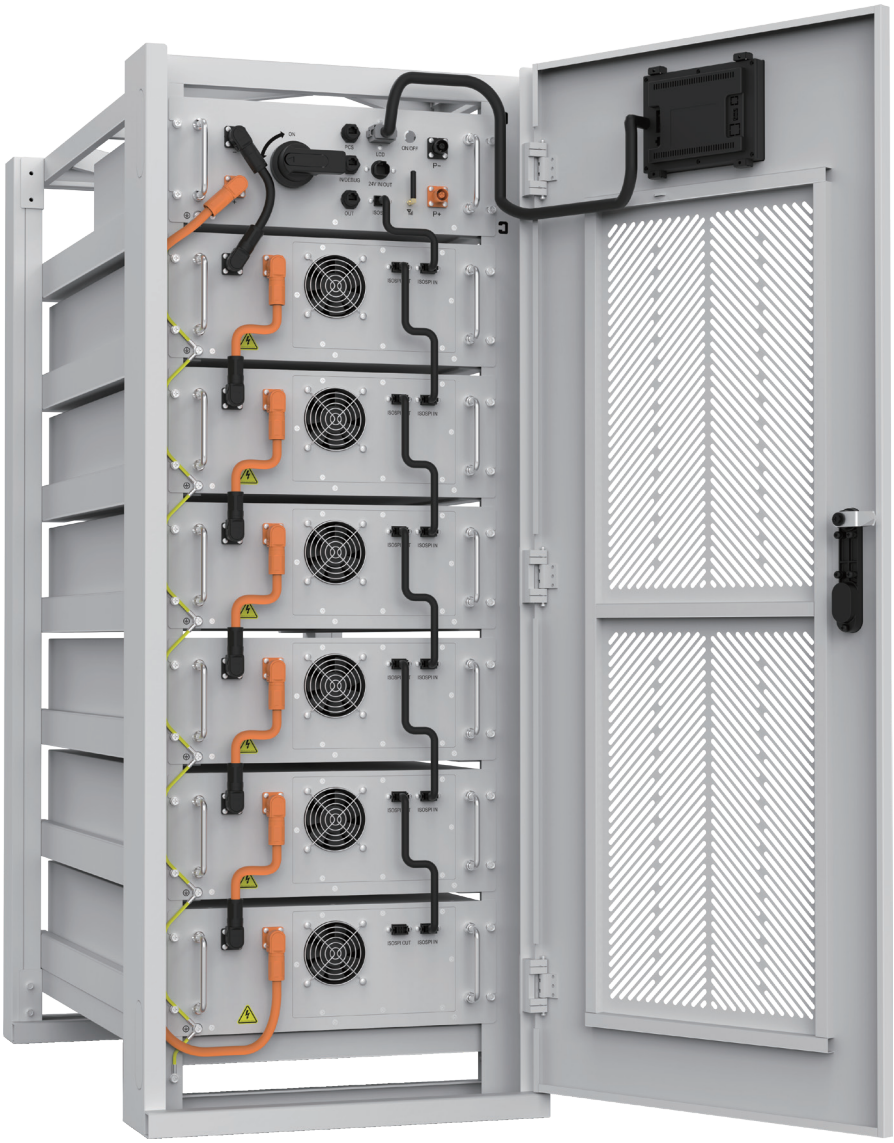
AN-ESS-60KWH

Installation Manual



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Important safety instructions

Please keep this manual for future use

This manual includes all the safety, installation, and operation instructions for this product. Please read all instructions and precautions in the manual very carefully before installation to use.

- Do not place this product within the reach of children.
- Do not install this product in hostile environments such as wet, greasy, flammable and explosive or heavily dusty areas.
- Utility service input and AC output are high voltage, do not touch the junction.
- The shell of the product is hot when it is working, do not touch it.
- Please do not open the terminal protection cover when the equipment is working.
- It is recommended that a suitable fuse or circuit breaker be installed on the exterior of this product.
- After installation, check that all wiring connections are tight to avoid dangerous heat build-up due to false connections.
- The battery energy storage system can only be installed and operated in an enclosed space. The working environment temperature range is -30℃~ 55℃ (Discharge-30℃-55℃ ; Charge：0℃-55℃) , and the maximum humidity is 85%. The battery module shall not be exposed to the sun or placed directly beside the heat source.
- The battery module shall not be exposed to a corrosive environment.
- When installing the battery energy storage system, ensure that it stands on a sufficiently dry and flat surface with sufficient bearing capacity.
- The battery energy storage system must be installed in a fireproof room. This room must have no fire source and must be equipped with an independent fire alarm device, which complies with local applicable regulations and standards. According to local applicable regulations and standards, the room must be separated by the T60 fire door. Similar fire-proof requirements apply to other openings in the room (such as windows).
- Compliance with the specifications in this manual is also part of proper use.

The product is prohibited to be used in below circumstances:

(1) Used in medical devices.

(2) Mobile use on land or in the air.

(3) Used as a UPS system.

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1.Basic information

1.1 Validity

This document is used for quick start-up of the lES Battery: GF-HS-S-614-100-30K-O-02 The information in this user manual is subject to change due to product updates or other reasons. We reserve the right to explain the details of the change.

1.2 Safety

The battery is a high voltage DC system, and it must be operated by authorized person. Read all safety instructions carefully before operating any work and observe them at all times when working on the system.

Incorrect operation or work may cause:

- Injury or death to the operator or a third party;
- Damage to the system hardware and other properties

Note before installation

- Check the battery to see if it has an intact appearance, complete contents, and the correct model.
- Use insulating tools and wear personal protective equipment (PPE) when operating the equipment.
- Follow the installation, operation, and configuration instructions. The manufacturer shall not be liable for equipment damage or personal injury if you do not follow the instructions.

Note in installation and maintenance

- The DC cables connected to the system may be live. Touching non-insulation live DC cables parts may result in death or serious injury due to electric shock.
- Disconnect the battery from a voltage source and make sure it can not be reconnected before checking on the battery.
- Do not remove any power cable on load(in charging or discharging status).
- Wear suitable personal protective equipment for all work on the system.

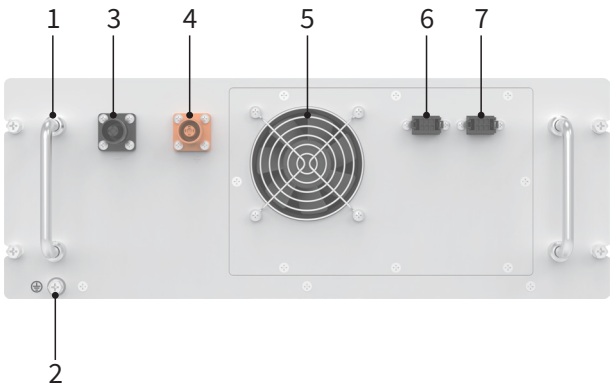
Check before Power On

- The equipment is installed in a clean and flat place that is well-ventilated and easy to operate
- Ensure that the PE cable, the battery power copper bar, the inverter power cable, the communication cable, and the AC cable are connected correctly and securely.
- Cable ties are intact, and routed properly and evenly.

1.3 Target group

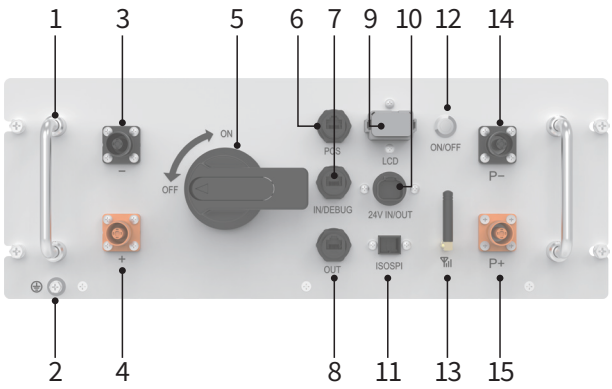
- Instructions in this document can only be performed by qualified persons who must have the following knowledge and skills.
- Knowledge of basic electrical systems and safety requirements.
- Knowledge of lithium batteries work and PCS.
- Knowledge of following local connection requirements and safety regulations.
- Knowledge and skills in the installation and commissioning of Solar or battery energy storage system.

1.4 Battery Module Introduction



serial number	symbol	defined declaration
1	/	Hand
2	⏚	Ground
3	B-	Input negative
4	B+	Input positive
5	/	FAN
6	ISOSPI OUT	PACK Communication out
7	ISOSPI IN	PACK Communication IN

1.5 High Voltage Box Introduction



serial number	symbol	defined declaration
1	/	Hand
2	⏚	Ground
3	B-	Input negative
4	B+	Input positive
5	circuit breaker	Control and protection switches for PACK and high-voltage box
6	PCS	Inverter communication interface
7	IN/DEBUG	Debug / parallel operation Input Interface
8	OUT	parallel operation Output
9	LCD	Display interface
10	24V IN/OUT	24V reserved 3.2A Max
11	ISOSPI	PACK Communication
12	ON/OFF	High voltage box start switch
13		WiFi/bluetooth
14	P-	Output negative
15	P+	Output positive

1.6 Tool meter preparation

Use insulation tools to separate signal lines from strong current or high voltage lines to avoid electric shock. The recommended list of tools to prepare before installation is as below:

• Installation tool list

Photo	Name	Photo	Name
	Impact drill		Torque socket wrench
	Torque wrench		Diagonal plier
	Crimping plier		Wire stripper
	Torque screwdriver		Multimeter
	Cable tie		Insulating tape
	Herringbone ladder		Rubber hammer

• Personal protective equipment list

Photo	Name	Photo	Name
	Safety gloves		Safety shoes
	Protective goggles		Dust mask

• Mechanical equipment list

Photo	Name	Photo	Name
	Electric forklift	1 unit	Load-bearing 3T
	Manual forklift	1 unit	Load-bearing 2T

1.7 Do not handle or move after assembly to avoid tipping over

Note

- To avoid turnover, fix the racked box to the forklift with a rope before moving.
- Move the rack carefully, as any impact or drop may cause damage to the rack. Once the box is placed, carefully remove the packaging to avoid scratching the rack. Keep the rack stable during the disassembly and assembly.
- If the rack installation environment is poor and long-term storage is required after unpacking, please take dust-proof measures.
- Ship the battery modules separately.
- Do not handle or move after assembly to avoid tipping over
- ESENER does not assume any warranty or replacement responsibility for product damage caused by improper transportation or human factors.

Operating steps

- Use a forklift to transport the rack, battery box, and related accessories to the specified location.
- Check whether the appearance and packaging of the rack, battery box, and related accessories are intact.
- Remove the outer packaging.
- Check whether the rack, battery box, and related accessories are intact.
- After confirming the rack is intact, move it to the specified location.

1.8 Accessories list

Name	Specifications	Number
Display screen	7 inch touch display screen	1 pcs
Communication cable for display screen	03058332 240831-UDL04	1 pcs
Screw	M6*12 mm	32 pcs
Screw	M5*8 mm	2 pcs
Screw nut	M5	1 pcs
Screw	M8*12 mm	56 pcs
Communication cable 1	cable for battery pack series connection	5 pcs
Communication cable 2	cable for high voltage box and battery pack communication	1 pcs
Series wiring harness	Parallel use of fire protection(optional) and fan	1 pcs
Network cable	Inverter communication cable L=2000mm	1 pcs
Hexagonal expansion screw	M8*50 mm	4 pcs
B- negative power cable	25mm² L=110mm Black	1 pcs
B+ Positive power cable	25mm² L=1460mm Orange	1 pcs
Series power cable	25mm² L=110mm Orange / Black	5 pcs
Inverter power cable	25mm² L=2000mm Black	1 pcs
Inverter power cable	25mm² L=2000mm Orange	1 pcs
Ground cable	4mm² L=240mm yellow-green	8 pcs
Upper computer communication box (Optional)	Computer and High Voltage Box Communication Box	1 pcs
Hook	Handling tools to transport batteries	4 pcs

1.9 Battery pack parameters

Model	AN-ESS-60KWH
Performance	
Battery module(Wh/V)	10.24 kWh, 102.4 V
Number of modules	6
Cell technology	LFP (LiFePO4)
Battery usable energy	61.44 kWh
Nominal voltage	614.4 V
Operating voltage	537.6-700.8 V
Standard charging & discharging	50 A / 0.5 C
Maximum continuous charging & discharging	100 A / 1 C
Communication	
Display	SOC status indication, Alarm indication, LCD display
Communication	CAN / RS485
General Specification	
Dimension (W*D*H)(mm)	584(W)*1094(D)*1500(H) mm
Weight Approximate (kg)	≈670 kg
Discharging temperature range	-20~55°C
Charging temperature range	0~55°C
Storage Temperature	-10～45°C
Environmental humidity	5%-85%
Protection rating	IP20
Cycle life	6000 Cycles @ 80% DOD / 25°C / 0.5C，70% EOL
Scalability	Yes
Application	ON Grid / ON Grid + Backup / OFF grid
Compatible PCS	Solis、Deye、Sunsynk、ATESS\MEGAREVO
Standard Compliance	
Certificates	Cell: UN38.3/IEC62619/UL1973/UL9540A/UL1642/BIS Pack: UN38.3/MSDS/DGM

[1] DC Usable Energy, test conditions: 90% DOD, 0.2C charge & discharge at 25°C.
System usable energy may vary due to system configuration parameters.

[2] The current is affected by temperature and SOC.

[3] Condition apply.Refer to warranty Letter.

2.Installation of rack

2.1 Notice

- Insufficient or no grounding may cause an electric shock. Device malfunctions, and insufficient or no grounding may cause device damage and life-threatening electric shocks.
- Note: Before installing the battery, please turn the manual switch of the high-voltage control box to the off position.
- Remember that this battery is heavy! Please be careful when lilting out from the package.

2.2 Installation steps

Step 1: As shown in the figure, Install the fixed bracket onto the column and secure it with M6 * 12 screws*32 PCS.

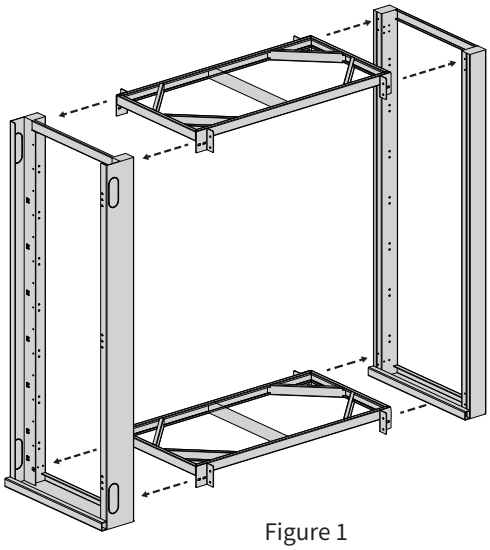


Figure 1

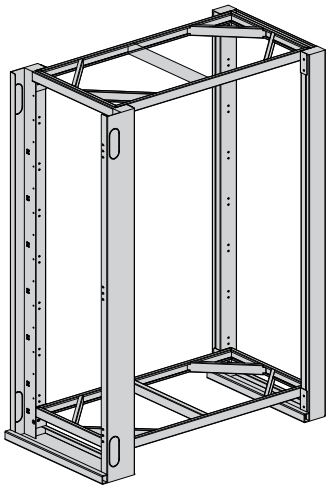


Figure 2

Step 2: As shown in the figure, install the Pack bracket to both sides of the column and fix it with M8 * 12 screws*56 PCS.

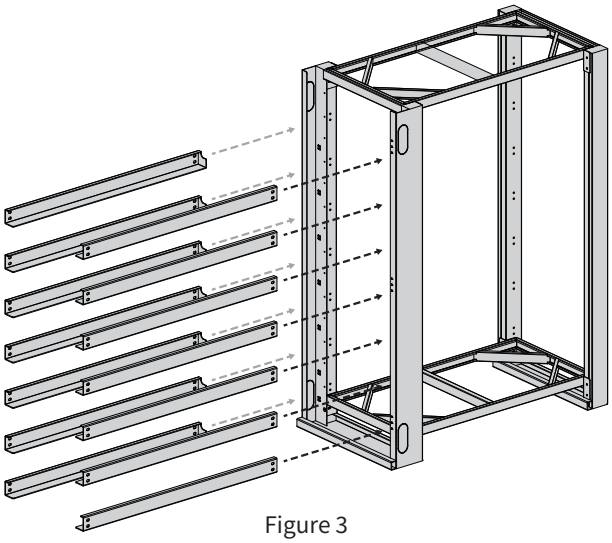


Figure 3

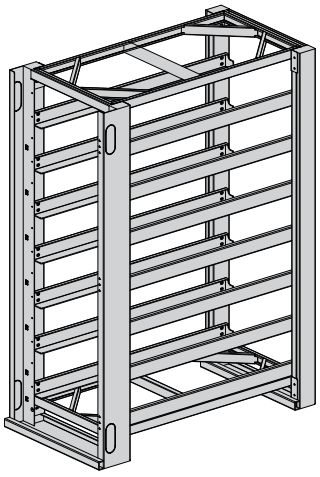


Figure 4

Step 3: Fix the bracket with expansion screws

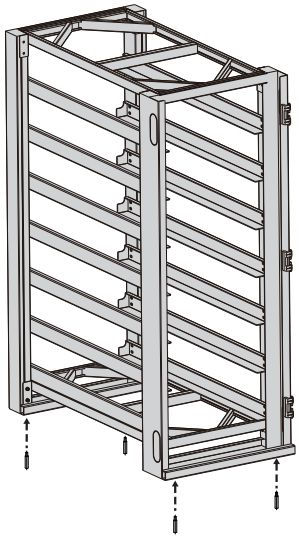


Figure 5

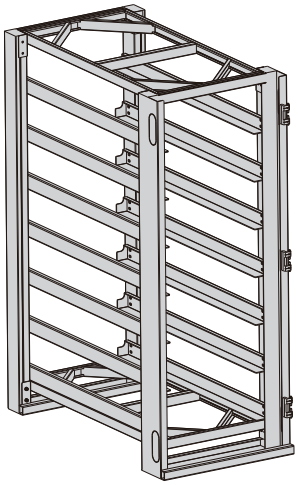


Figure 6

Step 4: As shown in the figure, push the battery pack into the rack in order from bottom to top and secure it with the screws inside the battery pack carton.

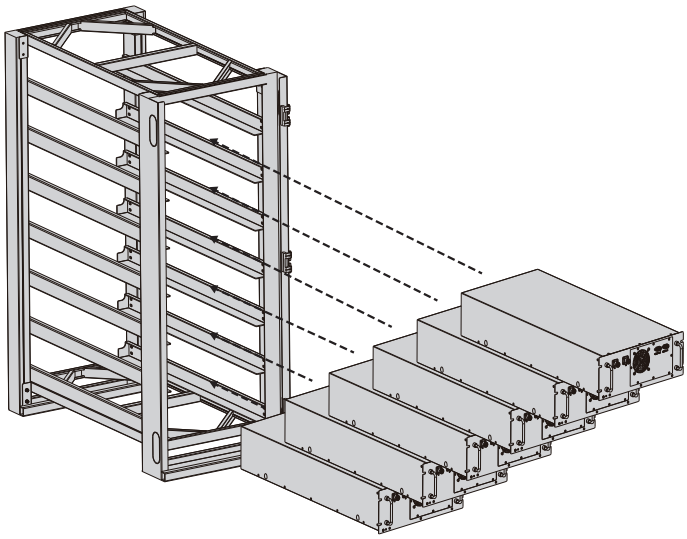


Figure 7

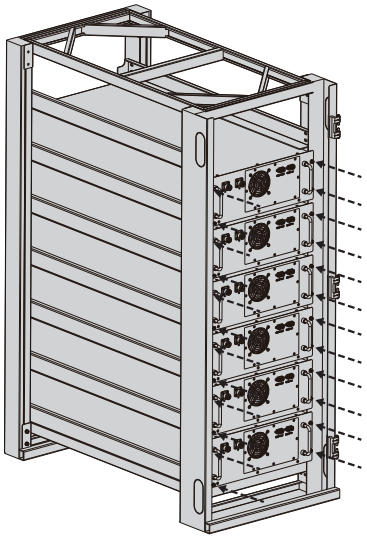


Figure 8

Step 5: As shown in the figure, push the high Voltage box into the rack from the top and secure it with the screws inside the high Voltage box carton.

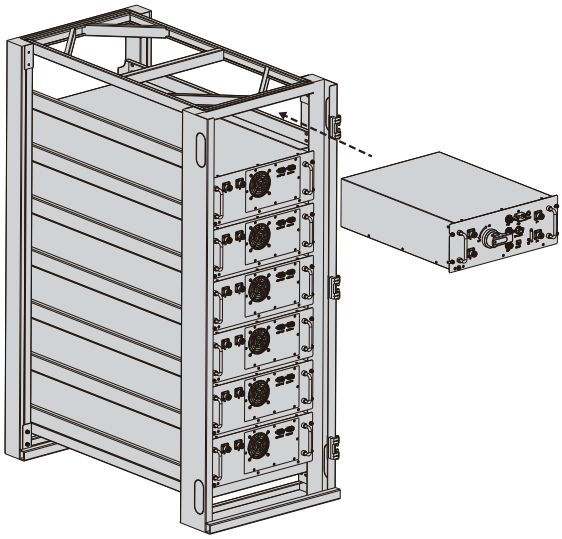


Figure 9

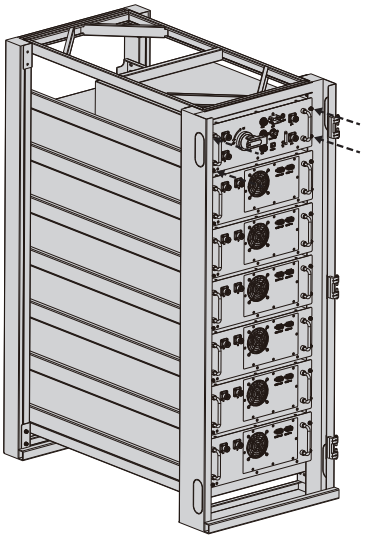


Figure 10

Step 6: As shown in the figure, install the door to the column and fix it with dowels on the column. (If the door and pillar are assembled for shipment, this step can be omitted).

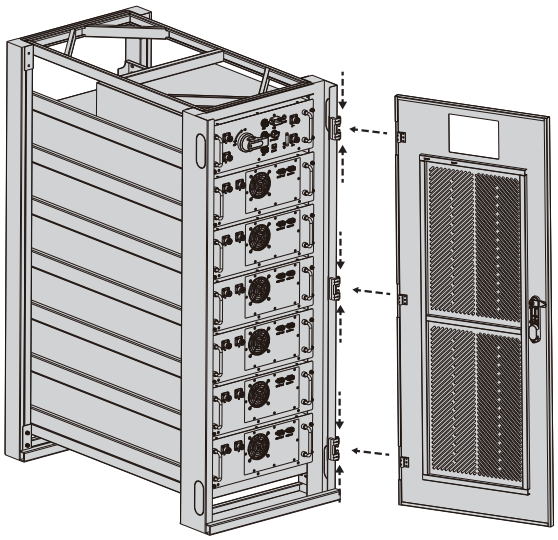


Figure 11

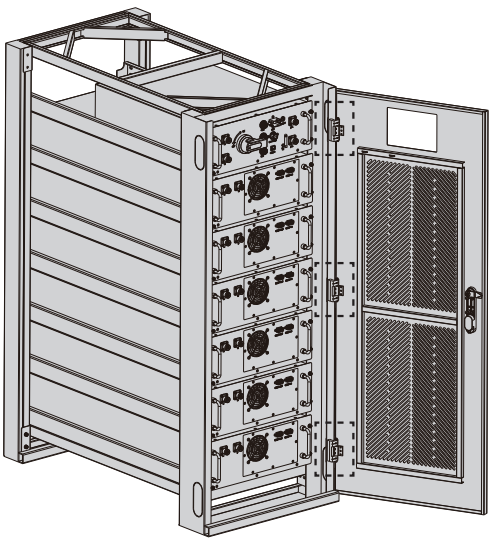


Figure 12

Step 7: As shown in the figure, put the screws into the four buckle respectively, then push the screen into the door, and secure the screen to the door with the buckle.

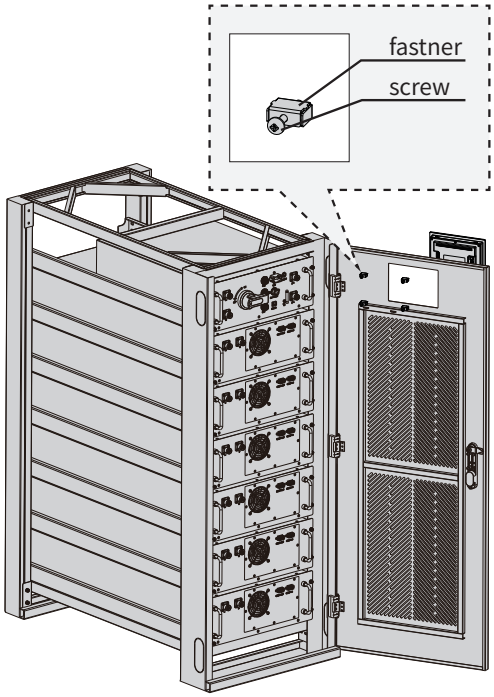


Figure 13

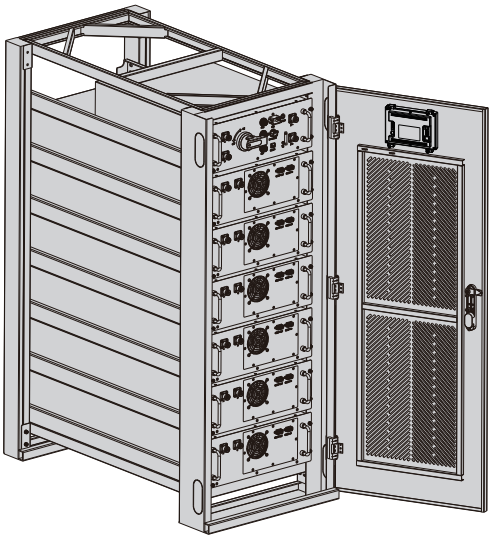


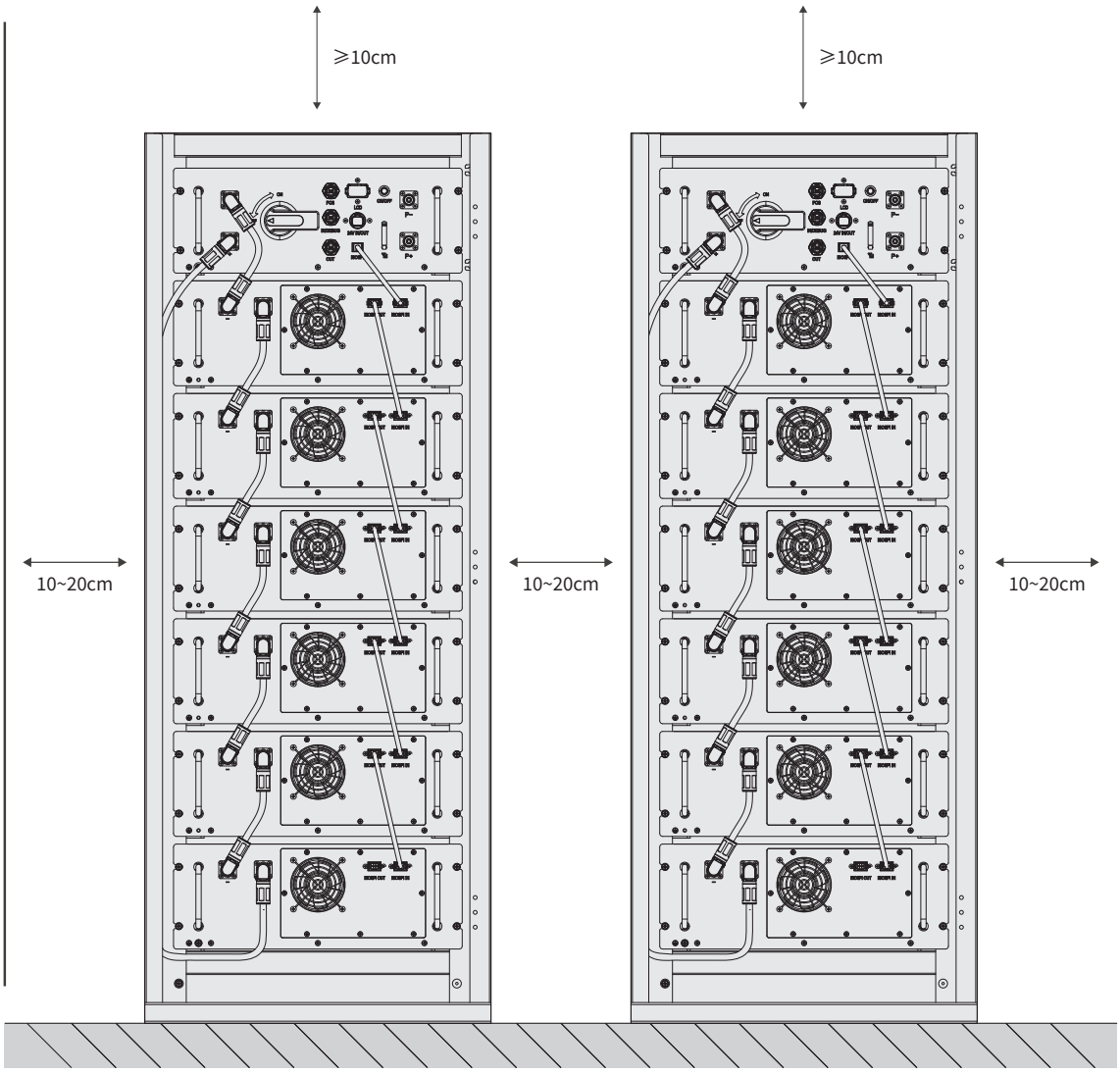
Figure 14

2.3 Inspection after installation

Task	Criteria
1	The rack is installed firmly, and will not tip over due to vibration.
2	The cable arrangement is reasonable and meets the user requirements.
3	Both ends of the cable need to be marked. and the markings are simple and easy to understand.
4	The cable tie shall be even, and no sharp corners at the shear.
5	The connecting cables between the batteries are fixed, and the screw fastening needs to ensure that the spring washer is flattened.
6	The resistance between the rack ground wire and the machine room ground bar is less than 0.1Ω.
7	The polarity of the battery cluster and inverter connection ends is correct.

2.4 Minimum product installation distance

The minimum distance to the surrounding building when the battery is installed is 10cm, and the minimum distance between the two products is 10cm.



3.System power-on

3.1 System power-on

Step 1: Insert the communication line from top to bottom in numerical order as shown in Figure 1.
Step 2: As shown in Figure 2, insert the ground line from top to bottom in digital order,
and the ninth line connects to the mains ground wire.
(The 9th wire indicates the connection between the external ground wire and our bracket)

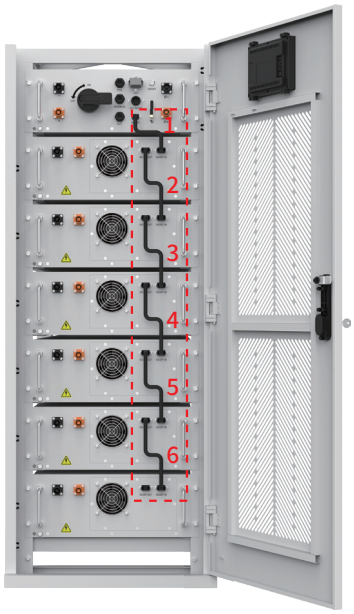


Figure 1

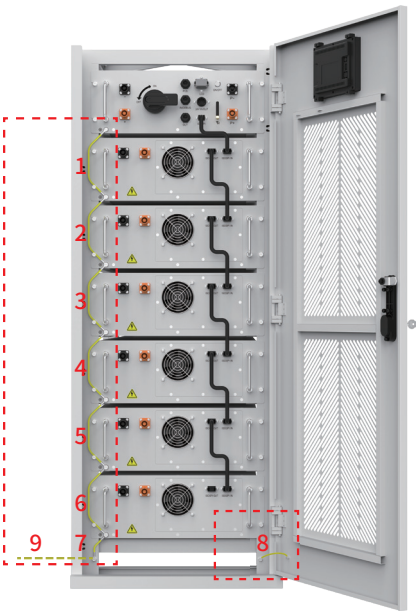


Figure 2

Step 3:Insert power cable from top to bottom as shown in Figure 3.
Step 4: Install the display screen cable as shown in Figure 4.

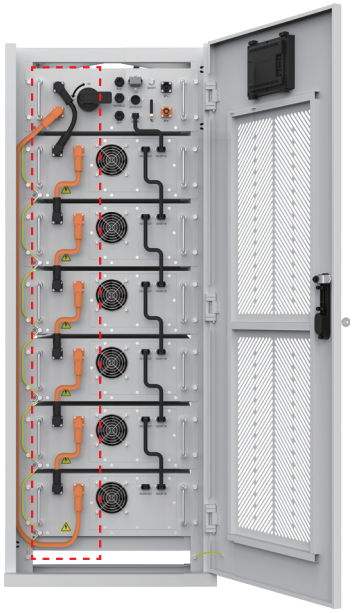


Figure 3

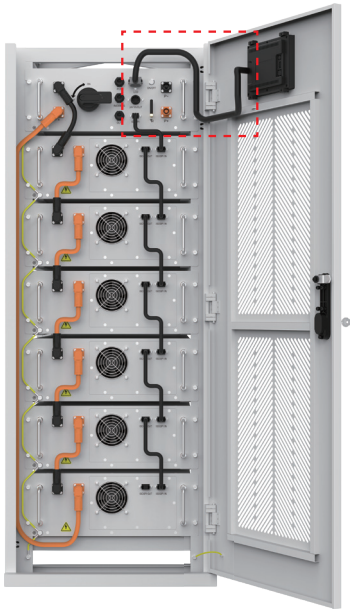


Figure 4

3.2 Assembly drawing

When installing the ground wire, it is recommended to connect it to the mains ground wire for sharing. If not possible, a grounding steel rod can be inserted into the ground at least 1.5 meters or more.

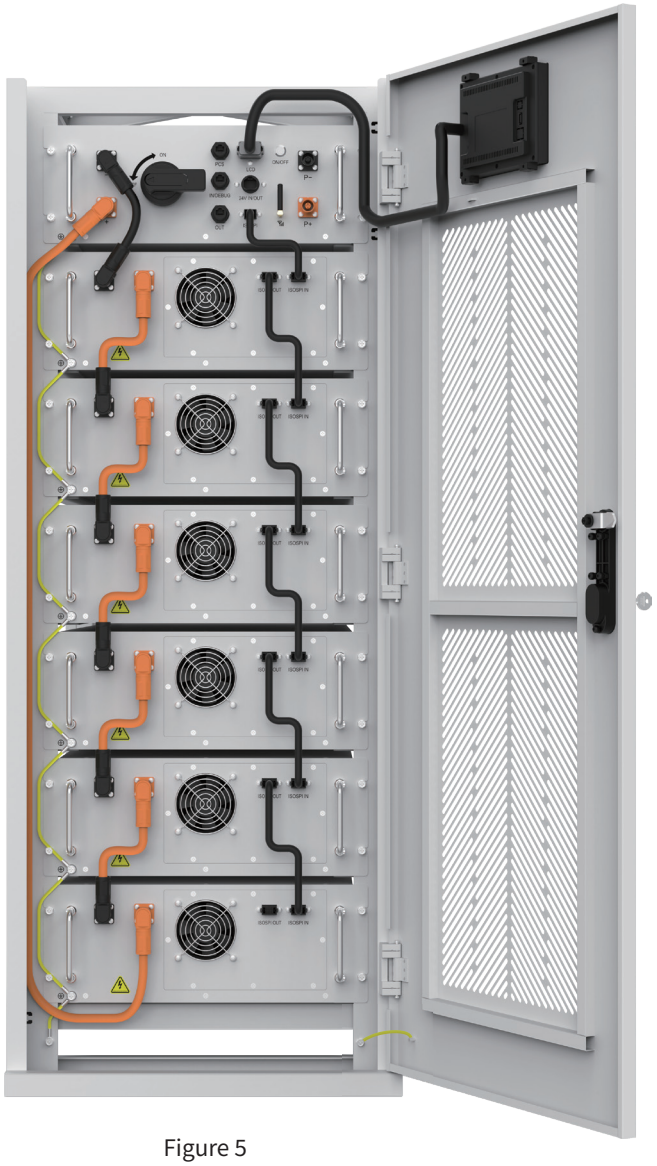
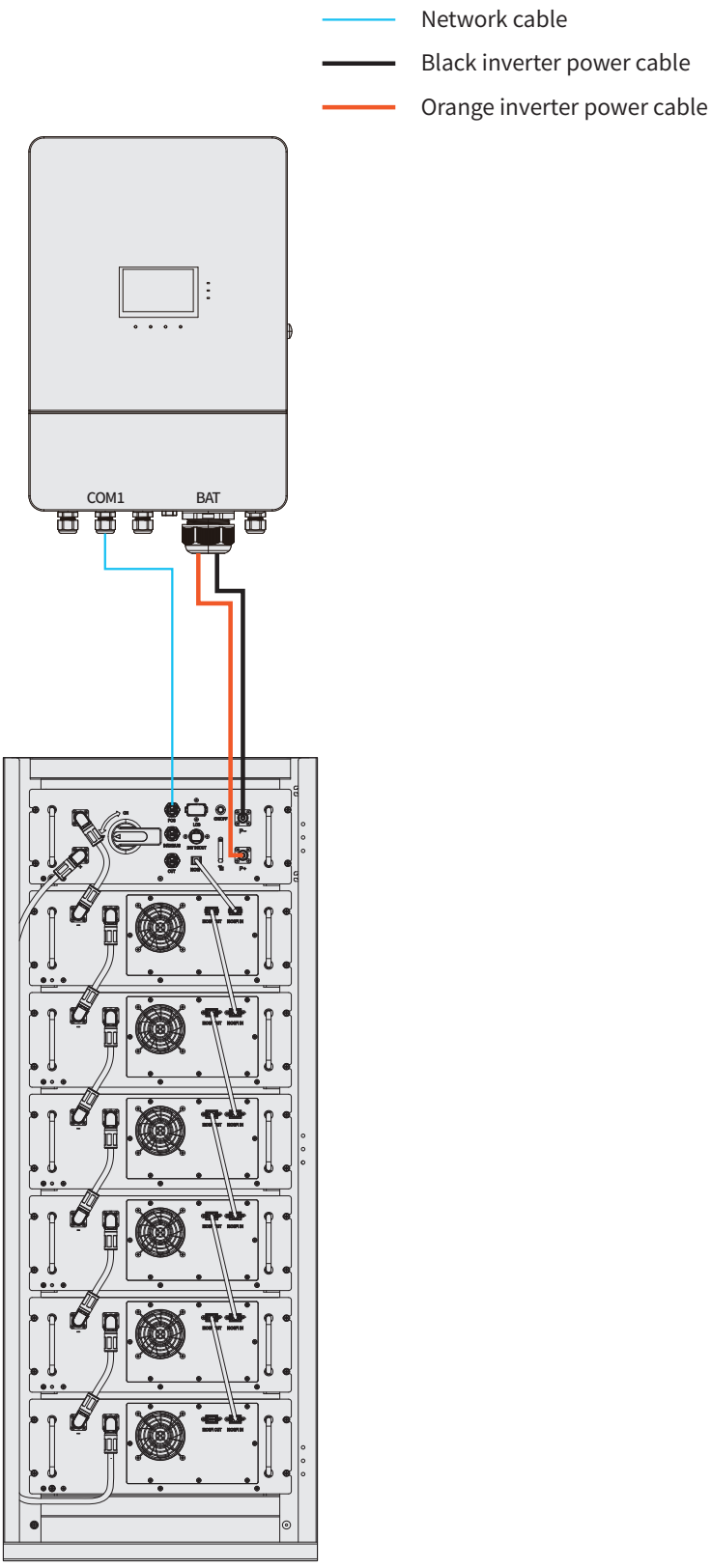


Figure 5

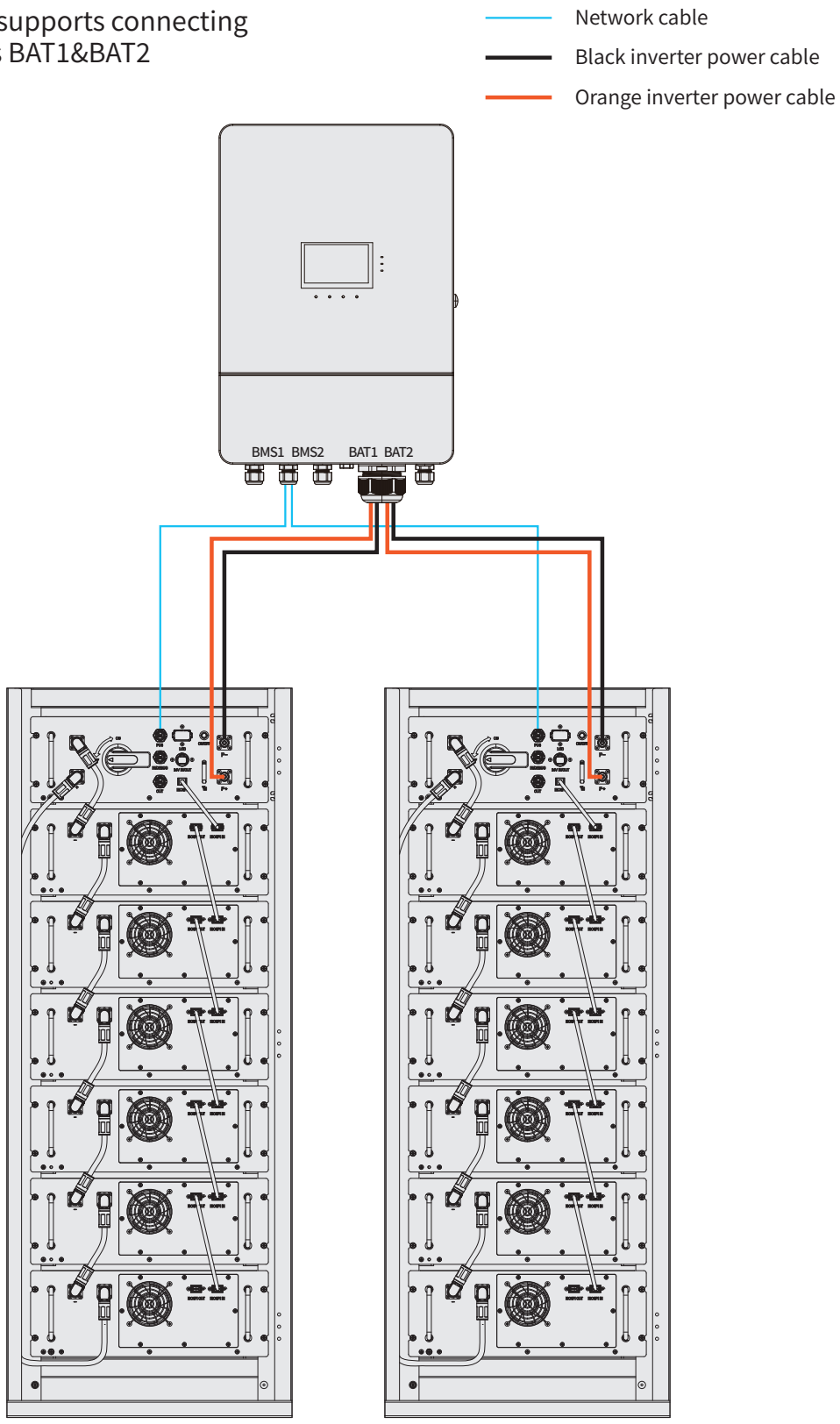
4.Battery cluster connected to inverter

4.1 Single battery cluster connected to inverter

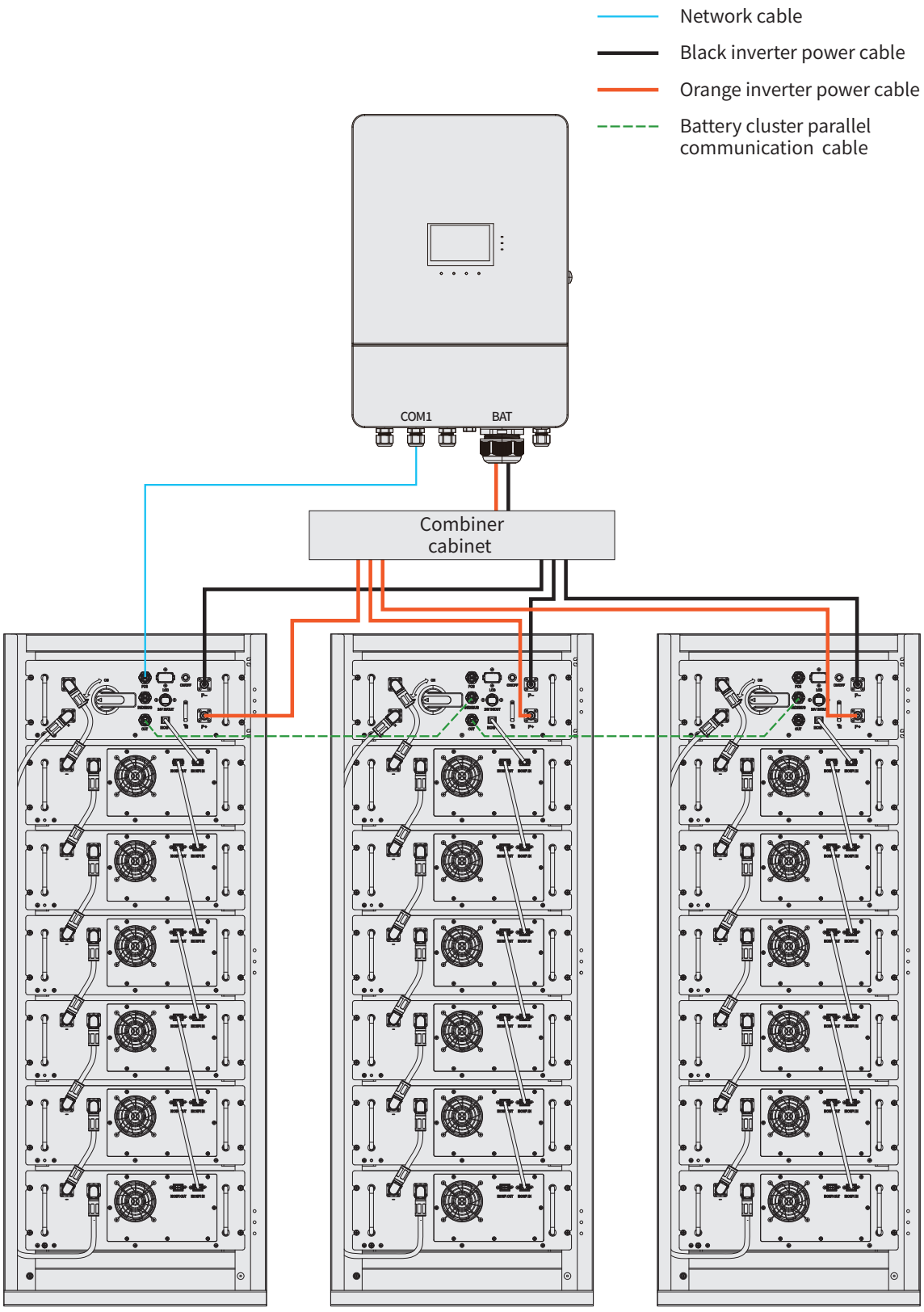


4.2 Two battery clusters connected to the inverter

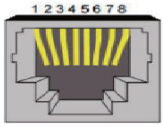
The inverter supports connecting two batteries BAT1&BAT2

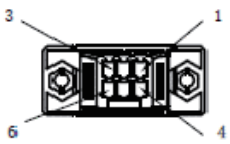


4.3 Three battery clusters connected to the inverter



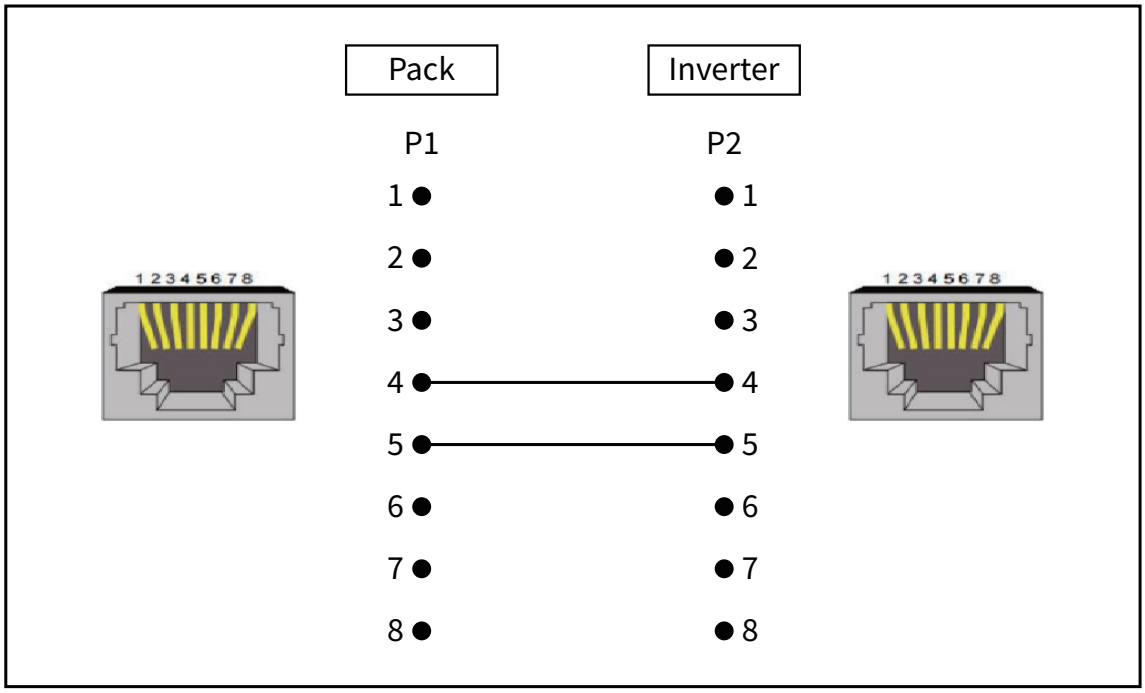
5.Communication interface description

Definition of Pcs communication interface		Packs in parallel IN		Packs in parallel OUT	
1	CAN0H	1	CAN0H	1	CAN0H
2	CAN0L	2	CAN0L	2	CAN0L
3	CAN1G	3	GND	3	GND
4	CAN1H	4	CAN1H	4	CAN1H
5	CAN1L	5	CAN1L	5	CAN1L
6	RS485G	6	COM-DI	6	COM-DO
7	RS485A	7	RS485A	7	RS485A
8	RS485B	8	RS485B	8	RS485B
					
					

High voltage box connect to battery pack		Batter pack communication output		battery pack communication input	
Definition of BMU communication interface		Definition upper of the BMU interface		Definition lower of the BMU interface	
1	ISOSPI_H	1	ISOSPI_H	1	ISOSPI_H
2	ISOSPI_L	2	ISOSPI_L	2	ISOSPI_L
3	Fire signal detection1	3	Fire signal detection1	3	Fire signal detection1
4	Fire signal detection2	4	Fire signal detection2	4	Fire signal detection2
5	FAN+	5	FAN+	5	FAN+
6	FAN-	6	FAN-	6	FAN-
					
					

6.Inverter connect to battery cluster

(Can use standard cable)



7.System operations

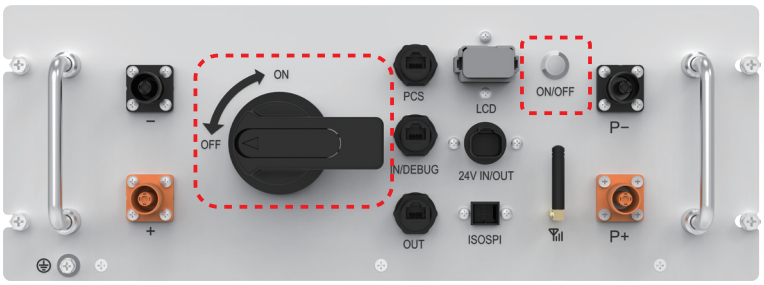
7.1 Power on procedure

Step 1: Rotate the high-voltage box switch to "ON".

Step 2: Press the circular switch of the high-voltage box (the switch light is on).

Step 3: Wait for about 20S, there is no abnormality in the self-test of the high-voltage box, and the machine will output normally.

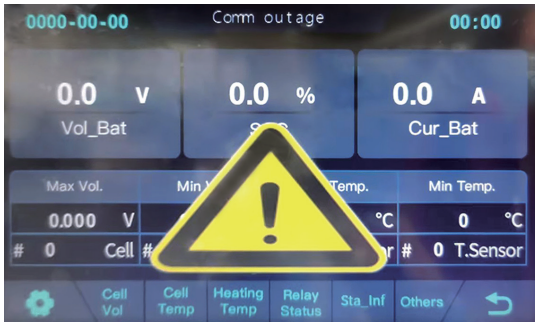
Step 4: If there are no errors on the screen, it means that the device is powered on normally.



Power on completion diagram

if there are no errors reported here,
it means that the device is powered on normally.

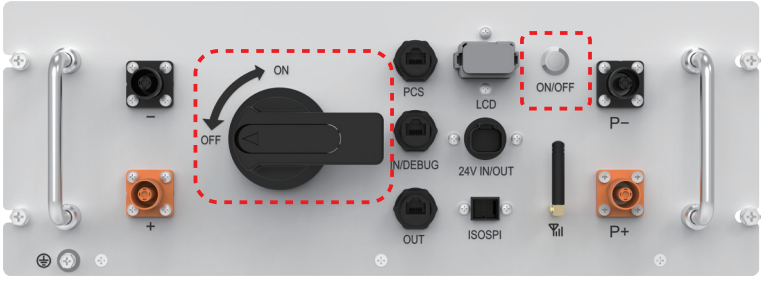
Power-on error diagram



7.2 Shutdown steps

Step 1: Turn off the load first, otherwise it will affect the service life of the circuit breaker.

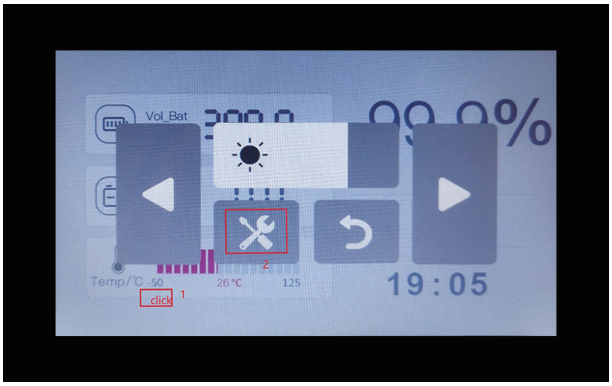
Step 2: Press the circular switch of the high-voltage box (the switch light is off) and rotate the high-pressure box switch to "OFF".



8.Display screen system interface

8.1 Display screen system interface

Description: Open the main interface
The normal interface of the system displays the overall state of the battery, including SOC, current, voltage, temperature and other information.



Description: Enter the settings and sub option display interface operations
(1) tap the screen
(2) Click on the itemized icon

Explanation: Show the world face option description
(1) System Settings
(2) Cell monomer voltage
(3) The Pack sampling temperature
(4) Heating temperature (this product NC)
(5) Relay status
(6) Charging information
(7) Product exception information

8.2 Common fault code and troubleshooting methods

Call the police in English	paraphrase	processing method
ChgOV	In the charge state, the monomer voltage of the cell is higher than the threshold	No need to deal with
DchgUV	In the discharge state, the monomer voltage of the cell is lower than the threshold	Reduce the load power or timely charge to replenish the battery energy
ChgOT	In the charge state,the battery temperature is higher than the threshold	1. Reduce the charging power and reduce the working environment temperature of the product until the equipment alarm is removed. 2. If step 1 is executed, the alarm cannot be eliminated, please stop the machine operation
DchgOT	In the discharge state,the battery temperature is higher than the threshold	1. Reduce the load power and reduce the working environment temperature of the product until the equipment alarm is removed. 2. If step 1 is executed, the alarm cannot be eliminated, please stop the machine operation
DchgContOC	In the discharge state, the circuit will give an alarm when the discharge current reaches the set threshold Fault type DchgContOC and DchgTransOC are similar , In addition to the current, the duration also has a relationship, so here are two faults	1. Reduce the load power until the alarm disappears. 2. If the machine has no output voltage, wait for 10min to recover, or restart the equipment to recover
DchgTransOC	In the discharge state, the circuit will give an alarm when the discharge current reaches the set threshold Fault type DchgContOC and DchgTransOC are similar , In addition to the current, the duration also has a relationship, so here are two faults	1. Check whether the external circuit is short circuit. 2. If the machine has no output voltage, wait for 10min to recover, or restart the equipment to recover
HighSoc	When SOC is higher than the threshold, it will alarm	No need to deal with
LowSoc	When SOC is lowerer than the threshold, it will alarm	Reduce the load power or timely charge to replenish the battery energy
VoltOpenWire	Abnormal cell voltage sensor (Related to the number of abnormality)	abnormal pack sampling, contact ES after-sales engineer
TempOpenWire	Abnormal cell temperature sensor (Related to the number of abnormality)	abnormal pack sampling, contact ES after-sales engineer
PrechargeFail	Precharge does not meet the set conditions	1. check the external circuit. 2. restart the high voltage box
RlyFault	The relay is faulty	If the high pressure box is abnormal, contact ES after-sales engineer in time
Thermal failure	The temperature is too high to cool down	NTC sampling abnormal, contact ES after-sales engineer

9.Upper Utility operating environment

9.1 Hardware environment

・Computer (Win 7 and above OS)

・Means of communication:

Using USBCAN equipment, creating core technology: CANalyst- II .

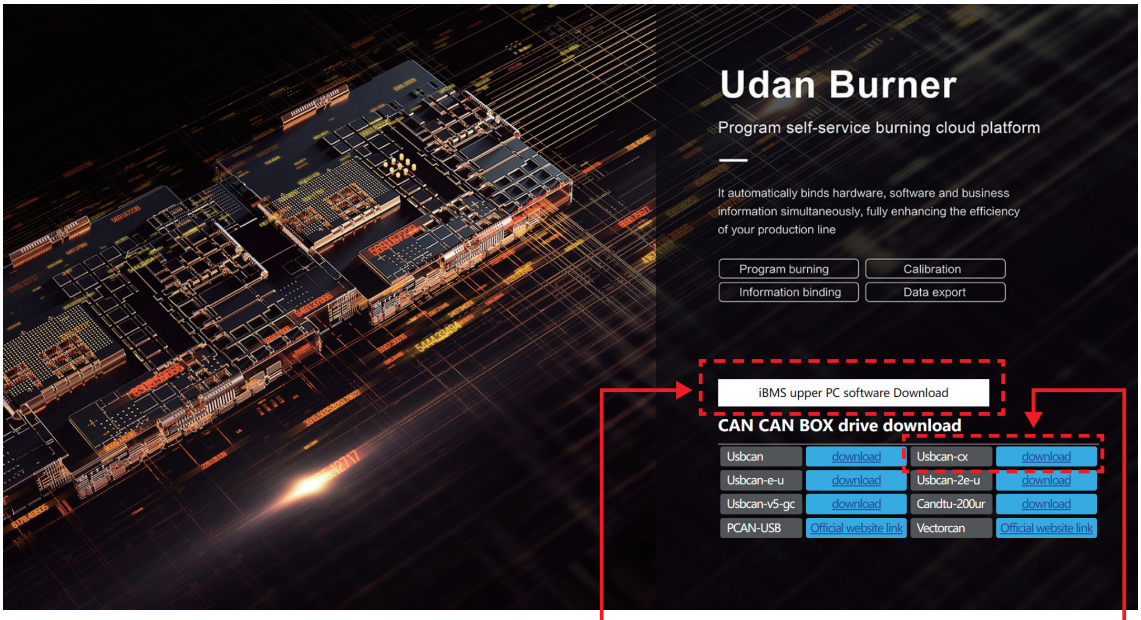
9.2 Software environment

USBCAN drive

The iBMS utility software

Utility software download link: https://www.ievcloud.com/burner_en.html

Please ensure that the computer operating system has installed an English language pack.



Download iBMS upper PC software

Download USBCAN driver “Usbcan-cx”

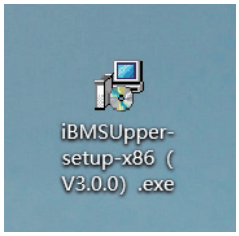
10.Upper Utility Software Installation Steps

10.1 Precautions before installation

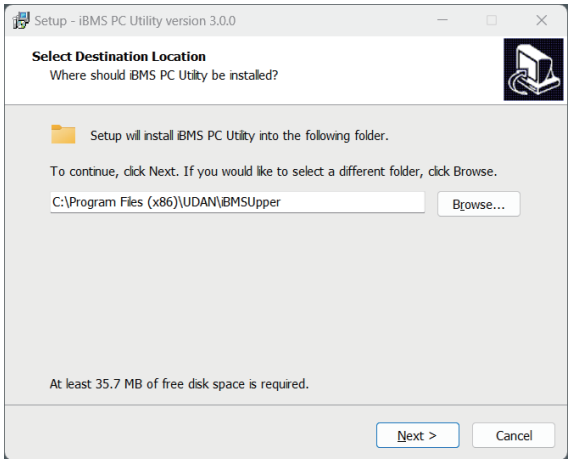
- Before installation, it is recommended to temporarily close the antivirus software, otherwise it may cause installation failure or abnormal operation.
- According to the directory must be all in English, can not use other languages, otherwise may not run.

10.2 Installation steps

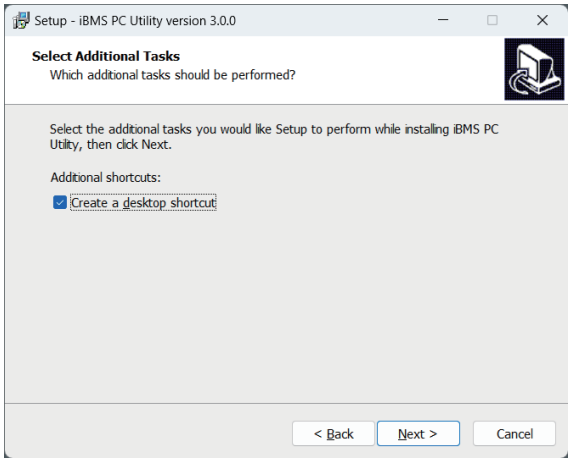
Step 1: Double-click the upper computer software. exe document.



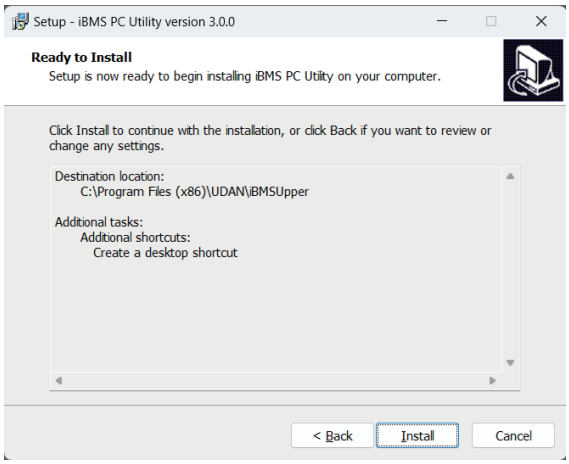
Step 2: Select the installation folder, the following figure is the default installation location, click "next".



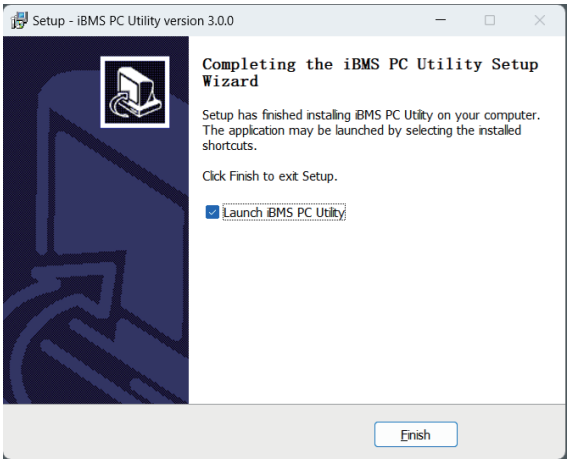
Step 3: Confirm whether to create a desktop shortcut (default selected), click next.



Step 4: After the installation is completed, check it by default and click "Finish" to start the host computer.



Step 5: Make sure that the above configuration is correct, and click "Install".

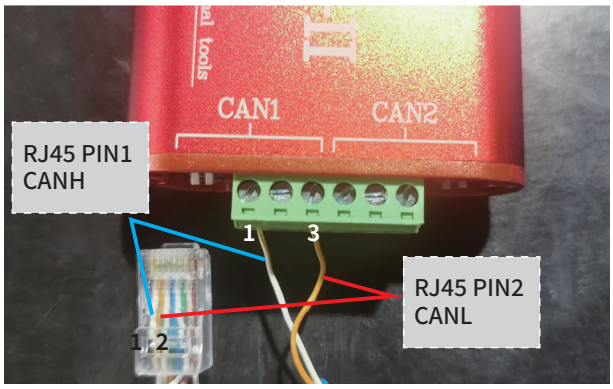


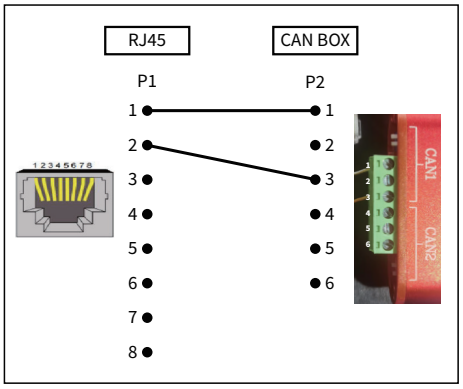
10.3 Software Updates

The iBMS host machine is updated by online upgrade. If the server has a newer version, the upper machine will automatically detect and download the installation package when startup under the normal conditions of network connection. The next time you start the upper machine, the update prompt will automatically pop up. Click OK to install the latest software, the steps are the same as above.

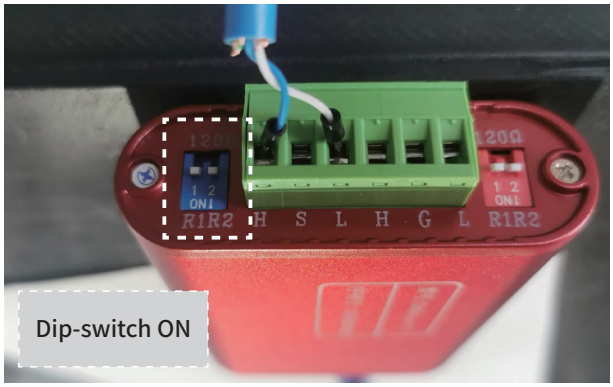
10.4 CAN Communication Box Connection Equipment

1.Confirm CAN Communication Box Wiring Status Before Connecting Product.

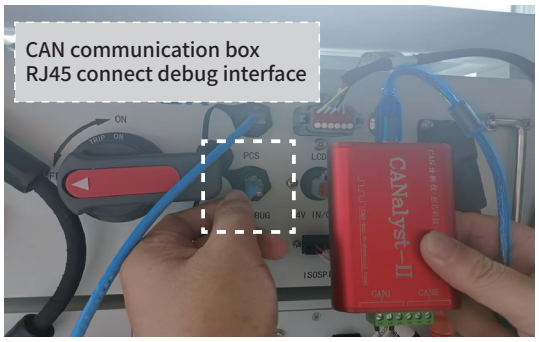




2.CAN Communication Box Dial Status.



3. The CAN communication box is connected to the product debug interface, and the USB terminal is connected to the computer.



11.Upper Utility Interface

11.1 Introduction to upper utility software

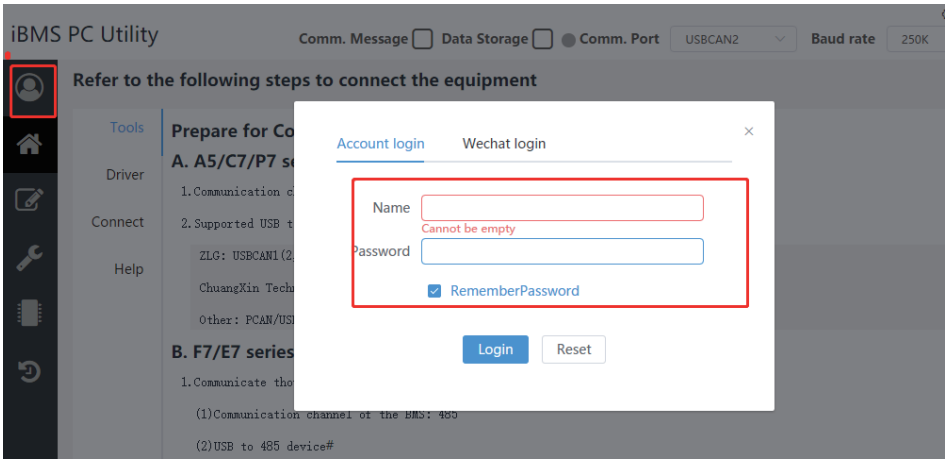
The iBMS host computer includes six functional modules, namely, login, system status, system configuration, parameter calibration & force control, program upgrade, and historical data.

11.2 Top function

- Communication message: the message in the communication process can be recorded after checking.
- Real-time storage: after checking, you can create a excel file in the directory of the upper machine and automatically open the folder, and save the system state interface data in real time between 2 seconds.
- communication port:
  (1)The dot on the left is shown as red when the upper computer has no communication, and as green when the communication is normal.
  (2)The drop-down box on the right can select different USBCAN and 485 device ports, only the selected device port is consistent with the actual use, can communicate normal.
- Paud rate: If using the CAN equipment, the baud rate is 250K. If the 485 equipment is used, the port rate is 9600.
- Start button: After the above configuration, click this button, and the upper computer opens the communication with BMS.

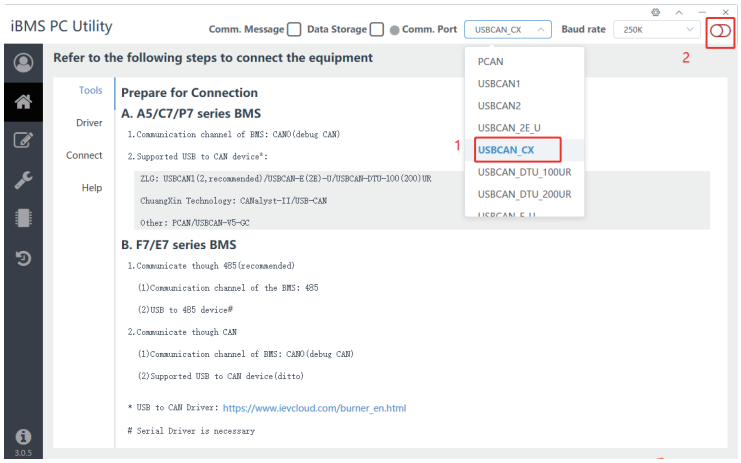
11.3 Log in interface

Host computer account log in



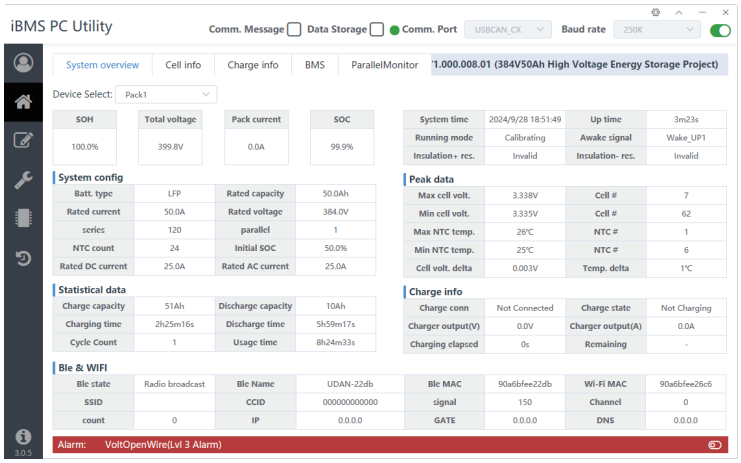
- Did not log in the account, can only view the interface and data export, unable to modify the system configuration.
- After logging in to the account, you can use all the functions of the upper computer: view the system status, configure the system parameters, firmware upgrade, data export and so on.
- Offline login: in order to facilitate the work in some network areas, the upper machine supports offline login, in the case of network login, the upper opportunity to keep logging in,even into the network area, can also carry out relevant operations.

Communication and connection between the upper bit machine and the equipment

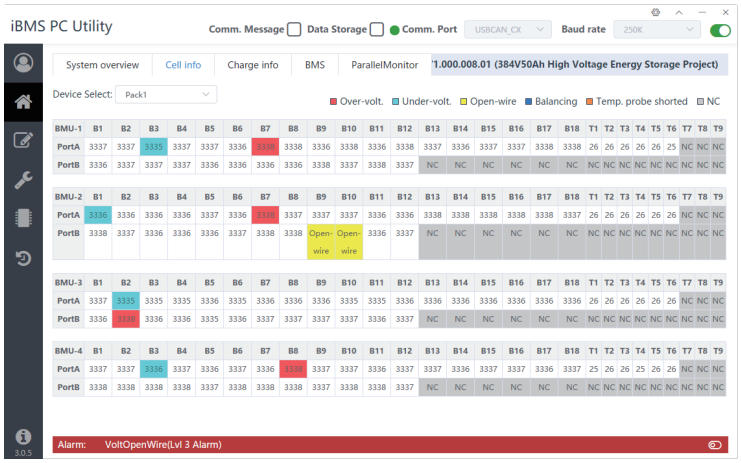


Note: If it cannot be connected, check whether the communication box driver and connection cable are in good contact.

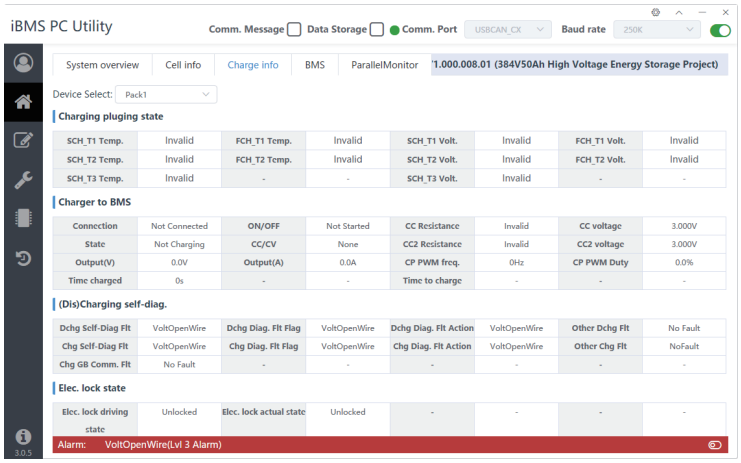
11.4 The System Interface



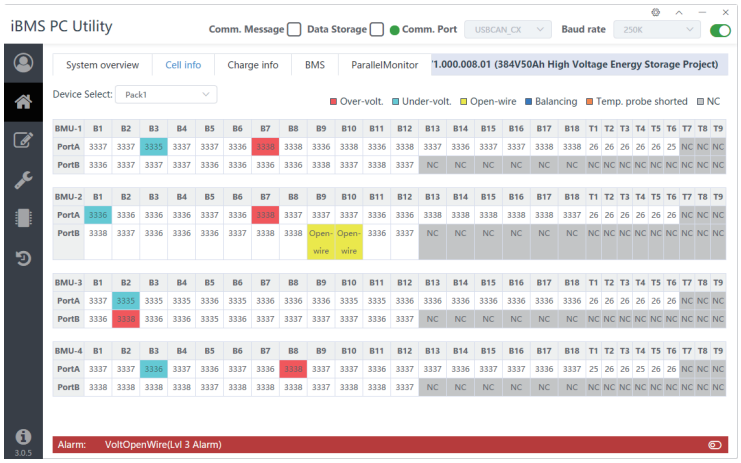
- The system interface displays the overall state of the battery, including SOC, SOH, current, voltage and other information.
- The system interface shows the relevant configuration of the battery, including the battery type, capacity, voltage, power, etc.
- The system interface displays the accumulated current battery information, extreme value information, charging status, etc.
- The system interface displays the real-time information of the network module (DTU) equipment.
- The bottom part is the fault alarm information of the system.



- The single unit information interface displays the cell voltage and temperature information.
- The monomer information interface displays the highest monomer information, the highest monomer information and the equilibrium state.

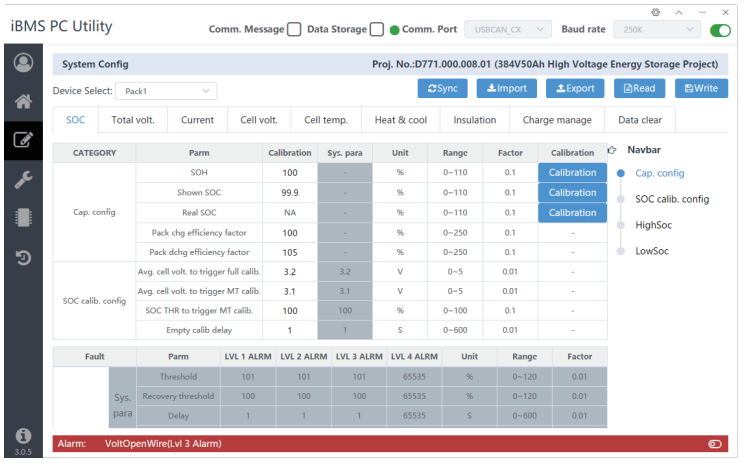


- The charging information interface displays the information of the relevant signals during the charging process.
- The functions displayed in this interface are compatible with all BMS systems, and some BMS systems only have some functions.



- The BMS information interface displays the data collection of various hardware pins of BMS.
- The functions displayed in this interface are compatible with all BMS systems, and some BMS systems only have some functions.
- This interface includes the high side switch status, high voltage monitoring point status, current acquisition point and other acquisition point status.

11.5 System configuration



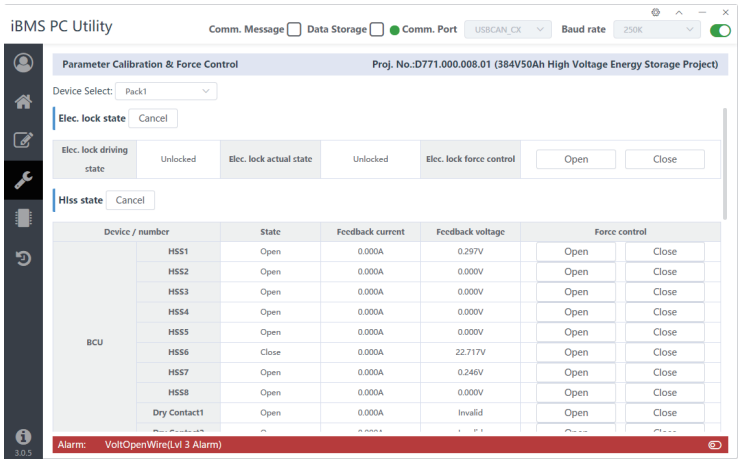
The system interface can be modified for soc, voltage, current, temperature and other parameters.

There are two ways to modify the type:

- Calibration type parameter: followed by a "calibration button", no system parameters. After filling in the value at the "Calibration Value", click "Calibration" to write the parameters to the system.
- System type parameters: These parameters are usually bound to the BMS firmware. They can be modified by the upper computer, but the system parameters in the firmware cannot be modified. The modification method is as follows:

  (1). Synchronization: Read the system parameters in the firmware.
  (2). Read: Read the parameters running in the current system.
  (3). Write: Write the modified parameters to the system.
  (4). Export: Read the parameters running in the current system to generate a record document.
  (5). Import: Upload a document to write the parameters in the document to the running parameters in the system.

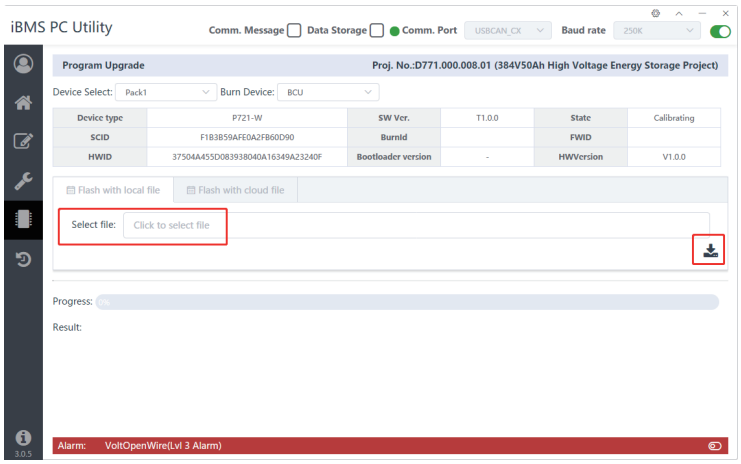
11.6 Parameter calibration & forced control



- Electronic lock strong control: only for BMS with electronic lock function, can close and break the electronic lock.
- High side / low side strong control: it can control the disconnection and the closing of the corresponding relay.
- System configuration: parameter simulation can be conducted to assist in field test and verification.

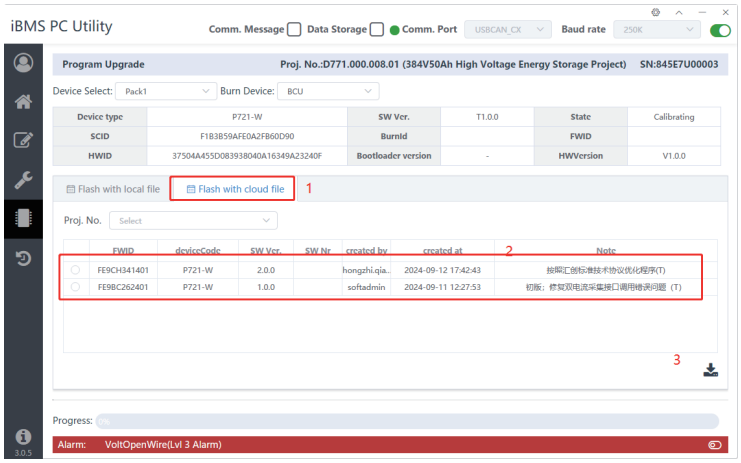
11.7 Program upgrade

Local burning record



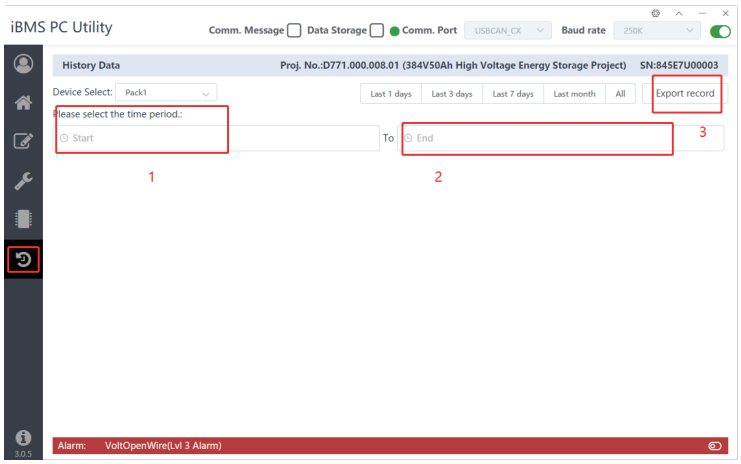
- When upgrading, BMS needs to be in the power running state, and the loop cannot have no charge and discharge current more than 3A.
- Click "Please click to select a file" and select the file that needs to be upgraded in the pop-up window.
- Click the download button on the right to start the upgrade program.
- Observe the burning progress and burning status below, and wait for the upgrade to complete.

Network burning record



- When upgrading, BMS needs to be in the power running state, and the loop cannot have no charge and discharge current more than 3A.
- Click "Project Number", select the item number in the drop-down list to view the firmware under the corresponding item.
- Select the required firmware and check the firmware.
- Click the download button on the right to start the upgrade program.
- Observe the burning progress and burning status below, and wait for the upgrade to complete.
- The operating interface may have different versions, for reference only.

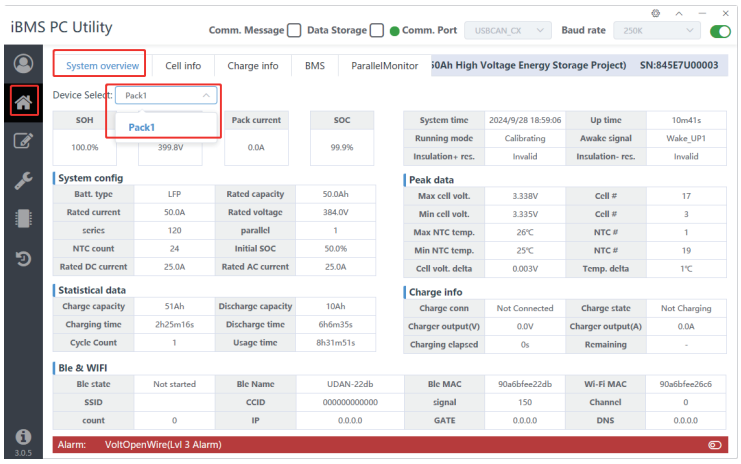
11.8 Historical data



- The historical data interface can export the data of the last month (related to the amount of data stored, the shorter the amount of data, for example, the storage of 120 strings of battery data is less than one tenth of the 12 strings of battery data).
- You can choose the time period to export the historical data, choose a fixed time, or set the time period freely.
- When exporting the data, the BMS needs to keep the power supply, and the circuit cannot have a current of more than 3A.
- The more data you export, the longer it takes, up to 16 hours. It is recommended to consider the time selection when exporting the data.

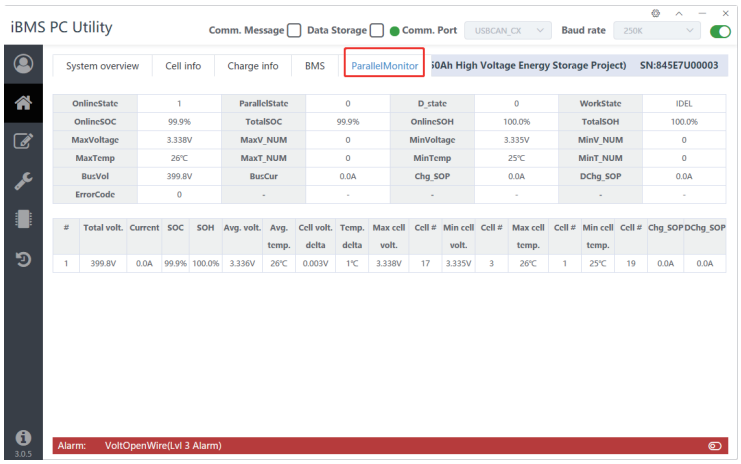
11.9 Parallel connection of battery cluster

Equipment selection



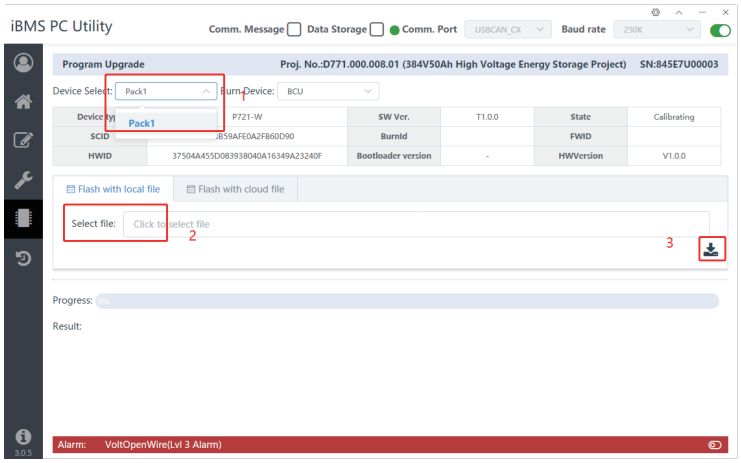
・The Pack 1 represents the main cluster, and you can click on the other Pack to switch between the clusters.

Parallel machine information display



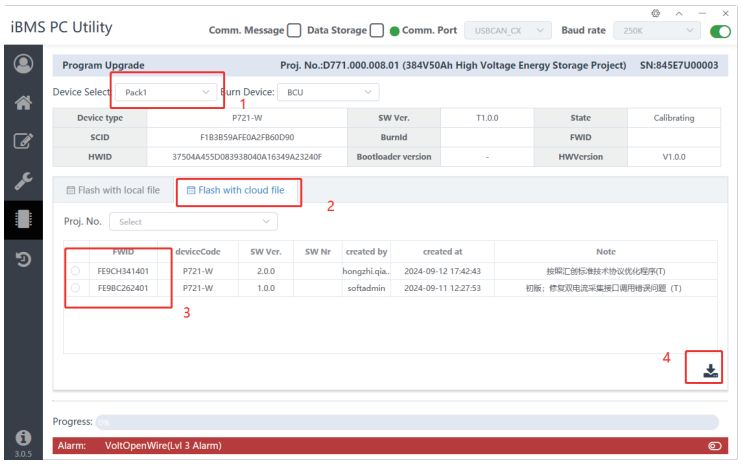
・2 decimal of networking status represents the number of networks, as shown in Figure decimal 32767, converted to 2 decimal 111111111111111, indicating 15 clusters

Local burning



- When upgrading, the drop-down box selects the pack that you want to burn, and burn locally by default.
- Select the correct program, click to burn to record.
- Wait for the burn progress bar to reach 100%.

Network burning record



- When upgrading, the drop-down box to select the pack you want to burn, log in the account, click the network to burn.
- Select the correct program, click to burn to record.
- Wait for the burn progress bar to 100%.

12.Others

12.1 The upper computer cannot be connected

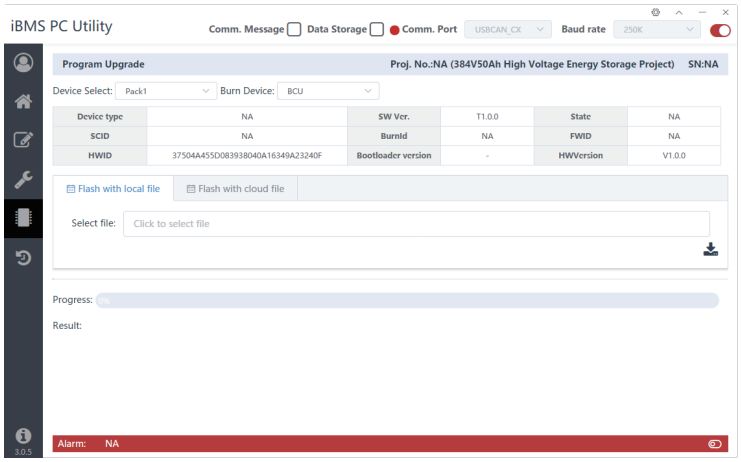
When the upper computer cannot be connected, please check the following items. If they still cannot be solved, please contact the expert engineer.

- Please check whether the BMS power supply is normal or whether the switch is turned on;
- Test whether the CAN box model is supported;
- Check whether the matching resistance of CAN line is correct;
- Whether the CAN box channel is consistent with the upper machine monitoring channel;
- Check whether multiple software is opened at the same time, causing the serial ports to be occupied or conflicting;
- Turn off the antivirus software and reinstall the upper computer in the non-Chinese directory.

12.2 Upper computer considerations

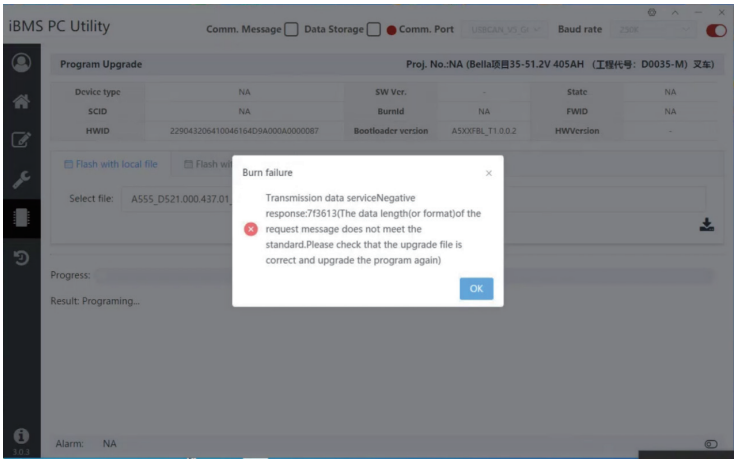
The BMS power supply is lost during the burning process:

During the process of BMS burning, BMS power supply and Intranet communication line are accidentally disconnected, which will cause BMS to enter the Boot Loader state. At this time, the upper machine is closed and the wiring harness is reconnected, and the BMS is connected to the upper machine. As shown in the figure below, the local burning can only be made. If there is no corresponding local BMS software, please contact the engineer of company.



Upper machine negative answer popup:

During the BMS connection, a negative response pop-up appears: four digits are added after the beginning of 7f, such as 7f3613, which indicates that the data length (or format) of the request message does not meet the standard. If you encounter such a popover, please contact the engineer.



13.Statement

1. Due to product version upgrade or other reasons, the contents of this document will be updated from time to time. Unless otherwise agreed, this document is only used as a guide, and all statements, information and suggestions in the document do not constitute any express or implied warranty.

2. Please read the "Installation Manual" carefully before installing the equipment to understand the product information and safety precautions.

3.All installation operations of the equipment must be carried out by professionally trained electrical technicians. Relevant personnel must wear personal protective equipment and use safe and reliable installation tools.

4. Before installing the equipment, please check whether the delivered parts are complete and free of any obvious external damage according to the packing list. If any items are missing or damaged, please contact your dealer.

5. After installation, please follow the instructions in this guide to ensure the correct use of this product. Equipment damage caused by failure to operate in accordance with the document is not within the scope of equipment warranty.

6. The cable colors involved in this article are for reference only, and the selection of cables should comply with local cable standards.

7. After reading, please keep the "Installation Manual" properly for future reference.

8. If you do not operate this product correctly, you may cause serious injury to yourself or others, or cause product damage and property loss.

9.Once you use this product, you are deemed to have understood, approved and accepted all the terms and contents of this document. Users promise to be responsible for their actions and all consequences arising therefrom. The company will not bear all losses caused by users' failure to use the product in accordance with the "operation manual".

10.In compliance with laws and regulations, the company has the final right to interpret this document and all related documents of this product.

11.shall not be liable for personal injury, property loss, product damage and subsequent losses under the following circumstances:

- Failure to comply with the provisions of this manual.
- Incorrect use of this product.
- Unauthorized or unqualified personnel repair the product, disassembly the rack and perform other operations.
- Use of unapproved spare parts.
- Unauthorized modifications or technical changes to the product.

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Release date 2025-04-18