

YJC POWER

YJC-HES-L-W-51.2V100Ah-SE

USER MANUAL



STATEMENT

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About This Manual

Scope of Validity

This manual is an integral part of the intelligent energy storage system. It covers the transportation, storage, installation, electrical connection, commissioning, maintenance and troubleshooting of the product. Please read this manual carefully before operation. This manual is valid for the following system models:

YJC-HES-L-W-51.2V100Ah-SE

No.	Definition	Description
YJC	Brand name	YJC Technology Co., Ltd.
HES	Product class	Household energy storage
L	Product classification	Low voltage
W	Product modality	Wall-mounted version
51.2V	Voltage platform	51.2V
100Ah	Capacity	100Ah
SE	Version	Basic Version

Target Group

The installation, maintenance and grid-related setting can only be performed by qualified personnel who:

- Are licensed and/or satisfy state and local regulations.
- Have good knowledge of these manual and other related documents.
- The installation operator must hold an electrician certificate or be a qualified installation personnel designated by the dealer after training.

Conventions

The symbols that may be found in this manual are defined as follows.

Symbol	Description
 DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION!	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE!	Provides tips for the optimal operation of the product.

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1 Safety

1.1 General Safety

Before transporting, storing, installing, operating, using and/or maintaining the device, please carefully read and understand the document, and strictly follow the instructions and safety precautions given herein, as well as symbols affixed on the device. The safety instructions herein are only supplements to local laws and regulations.

The operator should not only abide by all safety precautions provided in the document, including but not limited to the "Danger" sign, "Warning" sign, "Caution" sign, and "Notice" sign, but also comply with relevant international, national and local laws, regulations, standards, guidelines and industry rules in the process of transportation, storage, installation, operation, and maintenance.

YJC will not assume any responsibilities for the loss caused by improper operation, or violation of safety standards for design, production and equipment suitability.

YJC will not be liable for maintenance for possible device failure, device malfunction, or parts damage, nor will the company assume any liability to pay compensation for the possible physical and property damage resulting from the installation environment that does not meet the design requirements.

The device is well designed and tested to meet all applicable state and international safety standards. However, like all electrical and electronic equipment, safety precautions must be observed and followed during the installation of the device to reduce the risk of personal injury and to ensure a safe installation.

YJC will not assume any responsibilities if any of the following circumstances occur, including but not limited to:

- Device damage due to force majeure, such as earthquake, flooding, thunderstorm, lightning, fire hazard, volcanic eruption, war, typhoon, tornado, etc.
- Device damage due to human cause.
- Device used or operated against local policy or regulations.
- Failure to follow the operation instructions and safety precautions on the product and in this document.
- Installation and use under improper environment or electrical condition.
- Unauthorized modifications to the product or software.
- Device damage caused during transportation by the customer or the third party.

- Storage conditions that do not meet the requirements specified in this document.
- Use of incompatible inverters or devices.
- Installation and commissioning operated by unauthorized personnel who are not licensed and /or satisfy state and local jurisdiction regulations.

1.2 Device Safety

To prevent personal injury or property damage from improper operation, please carefully read the following installation precautions before installation.

1.2.1 Cabinet Safety



DANGER!

- According to local laws and regulations concerning electrical work, operators must hold an electrician's license or a qualified installation training certificate. During operations, they must wear personal protective equipment such as safety shoes and insulated gloves to prevent electric shock or injury from heavy objects.



WARNING!

- Before installation, prepare tools that meet the requirements. After installation, check the number of tools to avoid leaving them on the equipment surface or in the wiring openings.
- Before operating the equipment, ensure it is completely secured. Otherwise, the equipment may tilt or tip over, causing personal injury or equipment damage.
- Do not drill holes in the equipment, as this may lead to equipment failure.
- If circumstances that may cause personal injury or equipment failure occur (e.g., fluid entering the interior of the equipment), stop operation immediately and cut off the power supply. Otherwise, it may cause a short circuit or equipment damage.
- Equipment installation is strictly prohibited during thunderstorms to avoid the risk of lightning strikes.

NOTICE!

- The signs and messages on the labels and nameplates attached to the device need to be visible and clear.

**CAUTION!**

- Do not use a straight ladder. When electrical work is involved, a wooden ladder or an insulated ladder shall be used.
- The equipment shall not be used to provide a backup power source in the following circumstances:
 - a. Equipment related to life;
 - b. Sensitive precision instruments;
 - c. home appliances will be faulty in the case of a power failure during operation.

1.2.2 Battery Safety

**DANGER!**

- Do not connect the positive and negative poles of a battery together. Otherwise, it may be short-circuited. This will result in an excessive flow of current and large quantities of energy for a short time, and then will cause battery leakage, smoke, the emission of flammable gases, thermal runaway, fire, or even an explosion. Therefore, the battery must be powered off before maintenance.
- If a battery is overheated, it will cause leakage, smoke, release of flammable gases, thermal runaway, fire, or even an explosion. Therefore, please ensure that the installation site shall be well ventilated and kept away from high temperatures.
- Do not dismantle, change, shake, drop, crush, impact, cut, penetrate with a sharp object, or any other ways to damage the battery. Otherwise, it may cause leakage, smoke, emission of flammable gases, thermal runaway, fire, or even an explosion.
- Do not mix different types or makes of the battery. Otherwise, it may cause leakage or rupture, resulting in personal injury or property damage.
- The battery electrolyte is toxic and volatile. Never get in contact with the leaked liquids or inhale gases in the case of the battery leakage or odor, and contact professionals immediately. The professional must wear PPE (including but not limited to safety glasses, safety gloves, gas masks, and protective clothing) before powering off the device, and then contact our company at once after removing the damaged battery.
- Normally, the battery will not release any gases. However, in the following situations: burnt, needle-pricked, squeezed, struck by lightning, overcharged, or subject to other adverse conditions that may cause battery thermal runaway, the battery may be damaged or an abnormal chemical reaction may occur inside the battery, resulting in electrolyte leakage or production of gases. If the battery needs to exhaust flammable gas, safe emission measures must be taken to prevent fire and device corrosion.
- Do not use damaged batteries, and ensure that the installation site must be well ventilated.

**WARNING!**

- Please read the document carefully before installation, operation and maintenance.
- Must arrange fire-fighting equipment in advance according to the local laws, regulations, and standards while installing and commissioning the device.
- Please check that there is no damage to the outer packaging before and after unpacking, and in the process of storage and transportation. The battery shall be correctly placed or stacked in accordance with the requirements stipulated on the labels to prevent damaging or scrapping the battery resulting from crushing or falling.

**CAUTION!**

- Must tighten screws securing cables and on the copper bars according to the torque information specified in the document, and check whether they are tightened periodically. For instance, whether there is any rust, corrosion, or any other foreign object on it, and then clean it up if any. Because the loose screw connections may result in excessive voltage drops and large currents, leading to generating a lot of heat and burning the battery.
- The battery should be charged in time after discharge, to prevent battery damage due to over discharge. If a battery pack is stored for a long time, please periodically recharge it to protect it from damage according to the storage requirements specified in the document.
- Please charge the battery within the specific temperature range because the low temperature may result in a short circuit. Hence, do not charge it when the temperature is below the low limit of the operating temperature.
- Do not use the battery when you find a bulge, or dents on the battery housing, and contact the installer or professional maintenance personnel to dismantle and replace it. The damaged battery must be kept away from other devices and flammable and explosive articles, and do not contact it except for professionals.
- Before operation, ensure that there is no irritating or burning smells around the battery.
- Do not weld or grind near a battery. Because electric sparks or arcs may cause fires.
- Do not step, lead, stand, or set on the battery.

NOTICE!

Transportation requirements for battery:

- Relevant qualifications for the transport of dangerous goods must be obtained by the forwarding agent engaged in such businesses, and they must strictly abide by the local regulations for the transport of dangerous goods.
- Please check the battery before transportation. If a battery leaks, smells, or is damaged, do refuse to transport it.
- Please handle gently in the process of loading and unloading, transportation, and moving a battery to prevent bumping, and take effective moisture-proof measures to prevent personal injuries and battery damage.
- When shipping, please ensure that the battery is placed with the positive side up and kept stable. Do not place it upside down, inverted or tilted.
- Unless otherwise specified, do not transport the batteries, which are classified as dangerous goods, together with food, medicine, or other additives on the same means of transport. If the battery leaks electrolyte or any other chemical materials, the electrolyte leakage can lead to toxic gases. Therefore, do not contact with them at all times. In case of accidentally coming into contact with them, please do as follows:
 - In case of inhalation: Leave the contaminated area immediately, and seek medical attention at once;
 - In case of contact with eyes: Rinse eyes with running water for at least 15 minutes, and seek medical attention;
 - In case of contact with skin: Wash the contact area thoroughly with soap, and seek medical attention;
 - In case of ingestion: Induce vomiting, and seek medical attention. If a fire breaks out where the battery is installed, please do as follows:

2 Product Overview

2.1 System Description

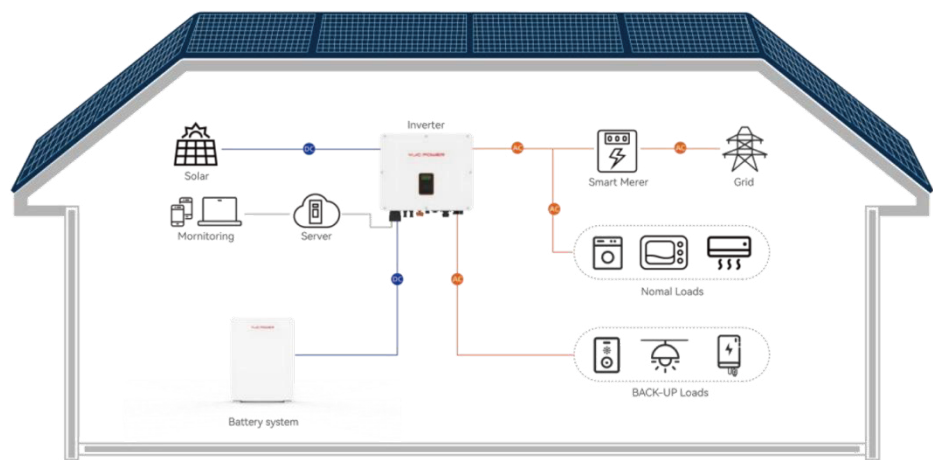


Figure 2-1 Application System

NOTICE!	
• An external communication cable should have shielded function.	

Item	Description
Energy storage system	It is mainly used for household energy storage power supplies to meet the requirements of energy storage systems, hybrid energy base stations, and backup power supply systems.
Function	This battery pack can increase the self-consumption rate of photovoltaic systems, reduce household electricity bills, and can be rapidly expanded as needed to provide reliable backup power for isolated and power-deficient areas. It integrates a battery management unit to manage and protect charging and discharging, supports alarm viewing of operating status, and reports data to the system through RS485/CAN interfaces for convenient remote monitoring and coordinated operation.

2.2 Product Appearance

The product is equipped with lifting handles reserved on both sides of the top.

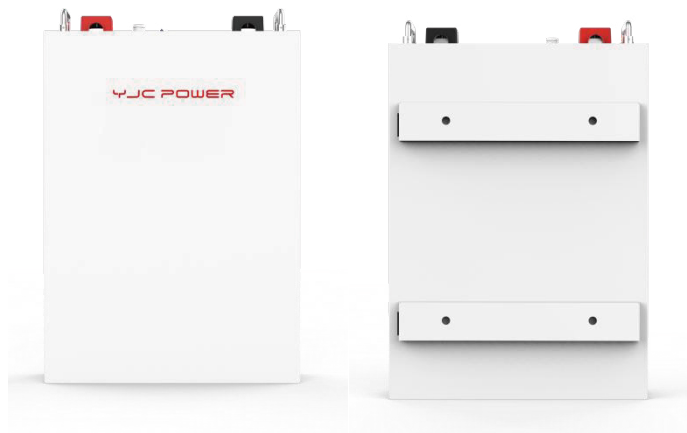


Figure 2-2 Product Diagram

Model	YJC-HES-L-W-51.2V100Ah-SE
Battery Type	LiFePO ₄
Compound Mode	16S1P
Nominal Energy	5.12kWh
Nominal Capacity	100Ah
Nominal Voltage	51.2 V
Rated charging current	50A
Rated discharging current	100A
Charging cut-off voltage	58.4V
Discharge cut-off voltage	40V
IP protection rating	IP20
Discharge temp. range	-20~60℃
Charge temp. range	0~50℃
Storage environment	20℃~30℃
Size(W*H*D)	390*538*134mm (±3mm)
Weight	≈41kg

Table 2-1 Product specifications

2.3 Definition of Wiring Port

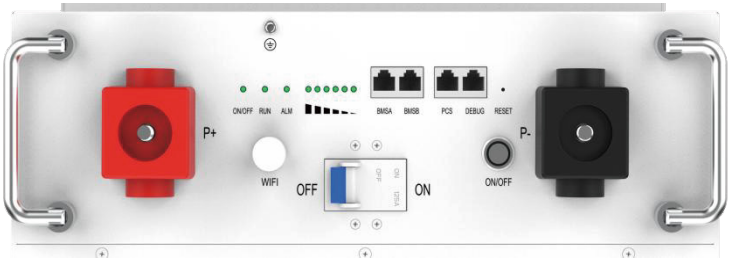


Figure 2-3 Connection panel diagram

	Display capacity status
ALM	Show alarm status
RUN	Show running status
BMSA	(Parallel communication port A)
BMSB	(Parallel communication port B)
PCS	(Inverter communication port)
DEBUG	Debug the communication port
ON/OFF	BMS system switch
P+	Positive
P-	Negative
	Ground terminal
WiFi	WiFi antenna

Table 2-2 Interface Definition

2.5 Communication Port Definition

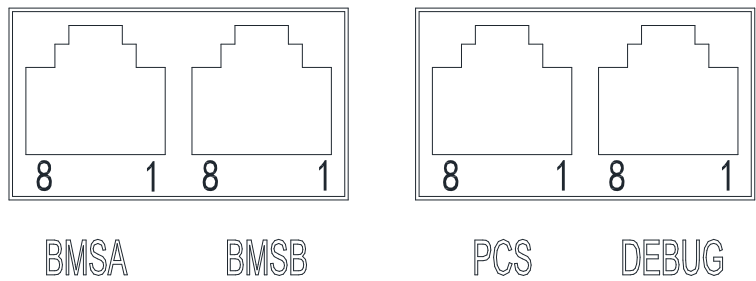


Figure 2-4 Communication port

RJ45-8PIN	BMSA	BMSB	PCS	DEBUG
1	RS485-B2	RS485-B2	RS485-B1	TX
2	RS485-A2	RS485-A2	RS485-A1	RX
3	GND	GND	KEY H	RS232-GND
4	NC	NC	CANH	NC
5	IN	OUT	CANL	NC
6	GND	GND	KEY L	NC
7	RS485-A2	RS485-A2	RS485-A1	NC
8	RS485-B2	RS485-B2	RS485-B1	NC

Table 2-5 Connection definition

2.6 Symbols

Symbol	Description
	Observe enclosed documentation.
	The device cannot be disposed together with the household waste.
	Do not operate the system until it is isolated from mains and battery.
	The battery system must be disposed of at a proper facility for environmentally-safe recycling.
	The battery module may explode. The rechargeable battery can become hot during operation. Avoid touch during operation.
	Keep the device away from children.
	Keep the device from open flames or ignition sources.
	RCM mark of conformity
	Protective grounding point.
	Grounding point.
	Caution, hot surface. The enclosure temperature may be high while running. Therefore, do not contact to avoid scalding.
	Danger, electric shock. Do not touch the device after it is powered on. Otherwise, an electric shock may occur.
	Danger. Due to possible risks, do not touch the device after it is powered on.

3 Transportation and Storage

3.1 Transportation Requirements



DANGER!

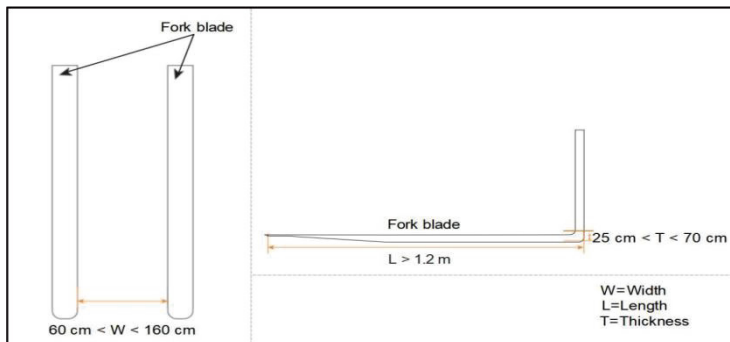
- Please be careful to avoid physical collisions during transportation. Do not place the equipment upside down, be exposed to water, etc., which may result in equipment damage, or even a fire or an explosion.
- The maximum stacking is 5 layers, no more than 5 layers.

NOTICE!

- Please strictly comply with the transportation requirements of the warning signs on the packaging and equipment.
- The tilt angle of the cabinet should be $\leq 10^\circ$ while transporting and moving it.
- To reduce product damage caused by shocking, tilting or impacting during transportation, it is recommended to consider sea or road (with better conditions) transport instead of rail and air transports.
- Relevant qualifications for the transport of dangerous goods must be obtained by the forwarding agent engaged in such businesses, and they must strictly abide by the local regulations for the transport of dangerous goods. Please check the battery before transportation. If a battery leaks, smells, or is damaged, do refuse to transport it.

3.1.1 Forklift

- Please confirm that the forklift's load-bearing capacity shall be ≥ 5 t before using it.
- The forklift should meet the following requirements: length of fork blade > 1.2 m, width of fork blade between 60 cm and 160 cm, and thickness of fork blade between 25 cm and 70 cm.



- Before moving the device, please pay attention to the center of gravity position of the load, and fully secure the load on the forklift by securing measures, such as ropes or bindings. In addition, please designate a person to supervise for safety concerns during transportation.
- When handling equipment, insert the fork tines accurately into the pallet notches before unpacking..
- Forklift enters from the wide side of the pallet to ensure the goods are stable and do not shake.
- The equipment can only be transported by forklift before unpacking.

NOTICE!

- After unpacking, inspect the product for any visible damage. If any abnormalities are found, please contact the distributor immediately.
- After unpacking, please keep the product packaging. If the installation location needs to be changed later, repackage the product properly before transportation.

3.1.2 Battery Storage



DANGER!

- The battery must be stored indoors, which the environment should meet the following requirements: 1. Avoiding direct sunlight and keeping out of rain; 2. Dry and well-ventilated; 3. Keeping away from heat and fire sources; 4. Keeping away from radiation; 5. Keeping away from chemicals; 6. Keeping away from dust and metal conductive dust; 7. Being equipped with fire facilities.
- Batteries must be stored in accordance with the requirements of the warning signs and other information on the packaging.
- Do not store with any other electronic equipment, chemicals, or other items that may cause interference or danger.
- Please pay attention to the height when stacking batteries to avoid deforming or damaging the battery at the bottom.

NOTICE!

- Do not store the batteries for a long time. If long periods of storage are unavoidable, please recharge it periodically to avoid battery damage.

- Regarding with the storage information, see the following table:

Storage temperature range	Storage time
> 50 ° C	It is not recommended to store.
41°C to 50°C	1 months
31°C to 40°C	2 months
20°C to 30°C	3 months

- Relative humidity for device storage: 5% ~ 95%.
- If the battery has been stored for more than 3 months, it must be checked and tested by professionals before use.

4 Preparation before Installation

4.1 Installation Site Selection

Installation Requirements for Household Energy Storage Systems The installation site plays a crucial role in the safety, lifespan, and performance of household energy storage devices. It should also facilitate electrical connections, operation, and maintenance.

Therefore, the selection of the installation site must comply with relevant household energy storage installation standards and local laws and regulations.

The installation site should meet the following requirements:

- Laws, Regulations, and Industry Standards:

The selection of the installation site must strictly adhere to local laws and regulations as well as industry standards related to household energy storage.

- Fire Safety: In accordance with local fire safety regulations, appropriate fire extinguishers, such as dry powder extinguishers, should be provided at the installation site. Additionally, interfaces for potential fire-fighting equipment should be reserved to enable quick connection in emergency situations.
- Installation Environmental Conditions: The device can only be installed and used in an environment with controllable temperature (typically between 20°C and 30°C, as specified in the product manual) and humidity (relative humidity not exceeding 85% and no condensation), such as a dry and temperature-appropriate indoor area like a balcony or garage.

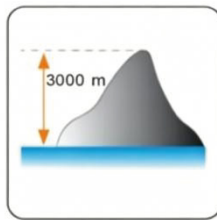
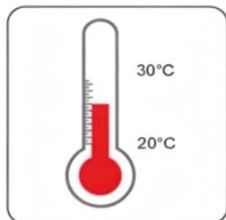
Safety Distances:

- The device should be kept at a certain distance from indoor living areas and furniture, typically at least 2 meters, to ensure proper heat dissipation and safety during daily operations. The exact distance should be determined based on local regulations and the product manual.

- If sufficient safety distances cannot be maintained due to space limitations, appropriate protective measures should be taken, such as installing heat-insulating and fire-resistant barriers around the device to prevent it from affecting surrounding items or people during operation. When planning the installation location, sufficient space for installation, daily maintenance, and potential future replacements should be considered.

Moisture and Flood Prevention:

- The installation site should avoid low-lying areas prone to water accumulation, such as locations near bathrooms or kitchens. If installed on a balcony or other areas that may be exposed to rain, the installation position should be at least 100 millimeters above the balcony floor or the device should be protected against water to prevent water immersion.
- If the installation site is in a house with moisture problems, moisture-proof measures should be taken, such as placing moisture-proof pads under the device or treating the walls and floors of the installation area to prevent damage to the device due to moisture.
- Avoidance of Liquid Intrusion: The installation area should be kept away from indoor locations where liquids may be generated or leaked, such as near water dispensers or flower vases, to prevent liquids from splashing or leaking onto the device and causing malfunctions.
- Good transportation: Good transportation for the installation site.
- Reserve space: During the planning phase, please consider the space for capacity expansion or connection in parallel in the future.
- Avoiding bad soil: Do not install devices on the undesirable soil that are prone to deformation and settlement.
- Installation environment requirements: » Temperature: 20°C ~ +30°C.
 - 1.Relative humidity: 75 ~ 90% RH.
 - 2.Altitude: Below 3000 meters.
 - 3.Good ventilation.
 - 4.Keep away from sandy and dusty environments.
 - 5.Keep away from high temperature environment such as heat source and fire source, etc.
 - 6.Keep away from flammable and explosive materials and areas with dust.
 - 7.Keep away from corrosive substances.
 - 8.Keep away from strong electromagnetic fields and antenna.
 - 9.Keep away from strong vibration and noise sources.
 - 10.Keep away from areas with radiation.
 - 11.Keep away from areas with metal conductive and magnetic dust.
 - 12.Keep away from areas that produce or have toxic and harmful gases.



4.2 Tools Requirement

The tools used include but are not limited to the recommended tools below. Please use other auxiliary tools according to the site requirements. Please note that the tools used must comply with local regulations.



5 Unpacking and Inspection

5.1 Unpacking

- The equipment undergoes 100% testing and inspection before shipping from the manufacturing facility. However, transport damage may still occur. Before unpacking the rechargeable battery, please verify that the model and outer packing materials for damage, such as holes and cracks.

Top view of the box body/Packaging Unboxing Diagram



Figure 5-1 Packaging Unboxing Diagram

- When unpacking, please handle all packaging materials properly for future storage or relocation of this equipment.
- After unpacking, please check if the equipment is intact and if all accessories are complete. If there are any damage or missing accessories, please contact your dealer immediately for assistance.

5.2 Packing List

No.	Items	Description	Quantity (PCS)
1	Battery	51.2V100Ah	1
2	Power cable	4 AWG red 1m	1
3	Power cable	4 AWG black 1m	1
4	Communication cable	Connect the battery and the inverter_1.8m	1
5	Parallel communication line	1.5m	1
6	Wall-mounted bracket	/	2
7	Screw	M8*16	2
8	Expansion bolt	M*6*60	4
9	User Manual	/	1
10	Certificate of Conformity	/	1
11	Warranty card	Size:300*150mm	1

Table 5-1 Accessories List

6 Product Setup

After determining the installation location, please take out the required cables. Confirm that the cable length meets the requirements of the installation location.



WARNING!

- Do not install, operate or maintain the equipment or cables in bad weather conditions such as thunderstorms, lightning, rain or snow.
- The device must be installed by professionals in accordance with local regulations and standards.
- Before drilling, please check and ensure that the area is free of pipes, light switches, sockets, and wires, and safe to drill into.
- Please wear PPE, and take steps to cover the device to prevent debris from entering it while drilling holes.
- After drilling, clean up the site in time.

6.1 Product Movement

NOTICE!

- After installation, secure the product firmly to prevent movement.

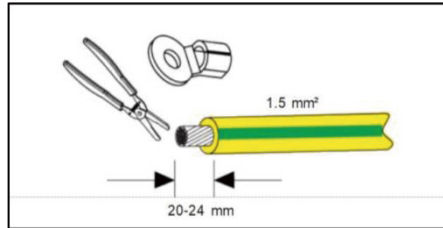
When manually handling this product, the following requirements must be strictly adhered to.

NOTICE!

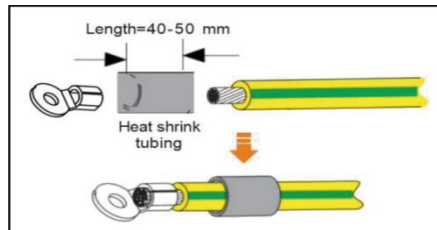
- Do not open the carton. The carton is essential for product protection, and opening it during handling may cause collisions and damage the product.
- Wear labor protection equipment! Operating without protection may lead to safety risks such as bumps and scratches, which could harm the handlers.

6.2 Ground Wire Processing Steps

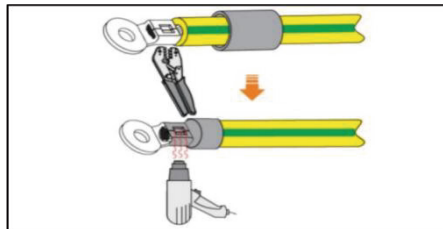
Step1: Strip the outer jacket off the PE cable to an appropriate length.



Step 2: Cut a section of heat shrink tubing, thread it through the stripped cable, and then attach the ring terminal.



Step 3: Crimp the terminal, pull the heat shrink tubing to the crimped area, and then heat them with a heat gun.



Step 4: Align the ring terminal of the PE cable to the grounding terminal, and then secure them using the M5 screw.

6.3 WiFi Connection Steps

Step1: Search for YJCPower in the App Store on iPhone and Android app stores.

Step2: After the download is complete, launch the app. Turn on your phone's Bluetooth before launching the app.

Step3: Tap the scan button and scan the QR code on the battery to view the battery parameter information. The connection QR code is usually located next to the Wi-Fi antenna.



Figure 6-6 Scan code interface

Step4: After the connection is successful, you can view the battery's real-time information and parameters on the mobile interface.

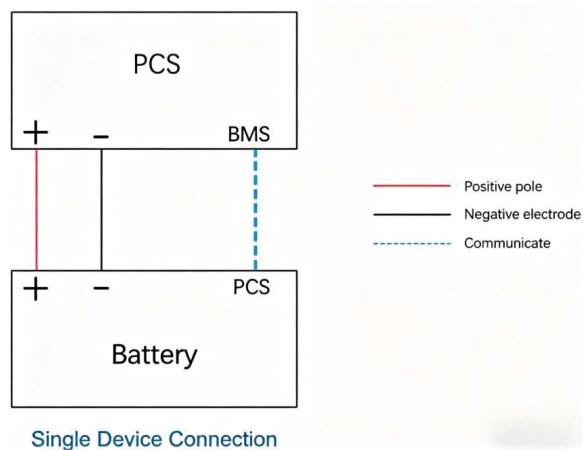


Figure 6-7 Parameter interface

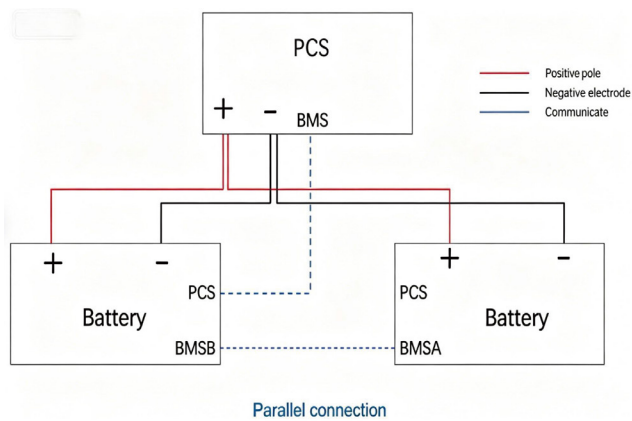
Note: The parameters shown in the images are for display only and should not be used as a standard reference!

6.4 Battery and Inverter wiring harness connection

Connection of a single product to the inverter wiring harness



After the products is connected in parallel, they are connected to the inverter wiring harness.



7 Battery Power on and off

7.1 Battery System Power up

Under normal circumstances, the switch on the device pane is in the closed state. The following is when the switch is closed and the device is turned on, and the switch is switched from open to closed, press the BMS switch, the device is directly activated.

Step 1: Make sure all wiring connections of the system are complete and correct;

Step 2: All switches between the battery system and the inverter must be closed;

Step 3: Start battery system: press the ON/OFF 1~2S on the BMS (or Reconnect the activation line) , the indicator light of the BMS will light up, and the system will be activated.

7.2 Power off the Battery System

Step 1: Before stopping the system, power off the system according to the following order Load=>PV=>, inverter=>Battery Turn off the battery: Open the circuit breaker between the battery and the inverter, then press the ON/OFF on the Battery.



WARNING!

- After stopping the system, please check below items
- Confirm all the batteries are powered OFF;
- All the LEDs are OFF;
- Inverter has been powered off.



WARNING!

- Before the battery system is activated, all switches between the battery system and the inverter must be closed, otherwise the system will report a short circuit fault.

8 Troubleshooting

This section lists the possible problems that may occur with the equipment and provides information and steps for identifying and resolving these issues. If you encounter any errors, please check the warning or error messages on the system and then refer to the following suggestions. For further assistance, please contact YJC customer service. Please provide the model and serial number of the cabinet and be ready to describe the details of the system installation.

Battery Fault Diagnosis and Handling Guide

No.	Failure phenomena	Cause Analysis	Exclusion methods
1	The battery has no voltage output.	The switch is not turned on or there is an abnormality with the switch.	Check whether the switch is in the on position and if there are any abnormal conditions.
2	The indicator light on the lamp board is faulty.	Abnormality of the light panel	Measure whether there is voltage output.
3	Communication abnormality	Abnormal Communication line or mismatch of PIN definitions at the PCS communication interface.	Check if the communication lines are intact and whether each wire sequence is conductive. Confirm that the pin definitions at the PCS end match those of the battery.
4	The SOC is inaccurate.	SOC anomaly	After a full charge and discharge cycle, the SOC will be automatically updated.
5	Battery not fully charged	Charging voltage too low	Adjust charging voltage at 58.4V
6	Power on instantly with sparking from the power cable port and red light on	Short circuit in the power supply wiring	Turn the battery off, check the cause of the short circuit and remove it

Table 8-1 Troubleshooting Chart

When encountering the following situations, to ensure the safety of the equipment and the effectiveness of the repair, it is recommended to contact the battery manufacturer or the authorized after-sales team in a timely manner:

- If the faults listed in the above table cannot be eliminated after step-by-step operations,
- If abnormal phenomena not listed in the fault list occur, such as battery casing bulging, leakage, frequent automatic restart of the display screen, and abnormal sounds (such as sizzling sounds) during charging and discharging,
- For faults involving internal core components of the battery (such as cells, BMS modules), do not attempt to disassemble and repair them by yourself. Professional personnel should use dedicated equipment for detection to avoid safety accidents or further damage to the equipment. When contacting the manufacturer, it is recommended to prepare the following information in advance to efficiently locate the problem:
 - Battery model (51.2V100Ah) and Serial Number (SN)
 - Specific fault phenomena (such as occurrence time, accompanying symptoms, operation scenarios)- Steps taken for troubleshooting and their results (refer to the handling instructions in the table)

9 Maintenance

Regular maintenance is required for the product. The table below lists the operational maintenance items necessary to ensure optimal device performance. More frequent maintenance is required in harsher working environments. Please keep records of all maintenance activities.



DANGER!

- Before replacing the battery pack, please unplug the power cord and turn off the system power to avoid the risk of electric shock.
- Do not use a wet cloth to clean the copper busbar or other conductive parts.
- Do not use water or any solvents to clean the battery.



WARNING!

- Maintenance operations are strictly prohibited while the battery is in operation. procedures such as opening the cover must be performed only after the battery has been powered off. Such operations may only be carried out after explaining the associated risks to the customer, obtaining written consent, and implementing effective preventive measures.
- Maintenance of the device may only be performed by qualified personnel.
- Only spare parts and accessories approved by YJC may be used for maintenance.



Operation and Maintenance Safety Requirements:

- Before connecting or disconnecting cables, ensure that the protection switch of the corresponding circuit is turned off.
- Use a voltage tester rated for the corresponding voltage level to check for live power and ensure that the equipment is completely powered off.
- If there are live components nearby, cover or wrap them with insulating boards or insulating tape.
- Operation and maintenance may only be carried out after securely connecting the maintenance circuit to the main grounding circuit with a grounding wire.

9.1 Maintenance of ten Battery Pack General maintenance

Item	Check notes	Maintenance interval
Pack appearance	There is no obvious damage, paint peeling, or rust.	Every 3 months
Cable connections	• No cables are loose or disconnected. • Check for any cable damage, focusing on the areas where the cable contacts metal surfaces for signs of cuts or abrasions.	Every 3 months
Grounding reliability	The grounding cable is properly grounded.	Every 3 months

Circumstance	Measure
If the ambient temperature for storage is between 31°C and 50°C	Recharge the battery packs at least once every 1 months
If the ambient temperature for storage is between 20°C and 30°C	Recharge the battery packs at least once every 3 months.
In the first installation	The interval among manufacture dates of battery packs shall not be exceed 3 months.

If a battery pack is replaced or added for capacity expansion	Each battery's SOC should be consistent. The max. SOC difference should be $\pm 5\%$.
If users want to increase their battery system capacity	Ensure that the SOC of the existing System capacity is about 50%. The manufacture date of the new battery pack shall not exceed 3 months. If the manufacture date of the new one exceeds 3 months, please charge it to around 50%.



- Only qualified person can perform the maintenance for the device.

10 Dispose of Wasted and Damaged Battery Pack

Please dispose of the rechargeable battery or accessories in accordance with the disposal regulations for electronic waste which is applied at the installation site.

NOTICE!

- The expenses for dispose of the wasted or damaged battery packs incurred shall be borne by the user.

11 Appendix

11.1 Terminal Installation Standards

If copper cable is selected, the connection sequence of wiring components is as shown in the figure below

NOTICE!

- The screw length should be appropriate, just enough to slightly protrude from the mounting hole. If it is too long, it may affect the insulation performance of the equipment or even cause a short circuit.
- After the installation is completed, you need to check whether part of the heat shrink tubing is clamped at the connection between the wiring copper nose and the copper busbar. If it is clamped, it should be removed in time, otherwise it may cause poor contact or even damage the equipment.

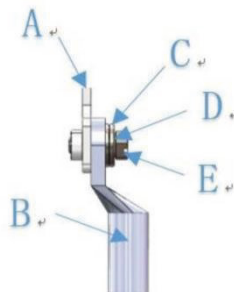


Figure 11-1 Terminal Mounting Diagram

S/N	Name	S/N	Name
A	Copper busbar	D	Spring washer
B	Copper Terminal Blocks	E	Bolt
C	Flat Washer		

Table 11-1 Terminal Installation Sequence

11.2 How to Repaint the Cabinet

Check the paint damage on the surface of the cabinet, with details below:

- For light scratches or small areas of stubborn stains, please see "11.2.1 Light Scratches Small Areas of Stubborn Stains" to treat them.
- If the damaged area is too large and cannot be treated, please contact the after-sale personnel for assistance.



WARNING!

- When handling the product's appearance, please disconnect the power supply and turn off the battery switch.

NOTICE!

- Finish with white paint.
- For light scratches and small areas of stubborn stains, spray paint and hairbrush are recommended.
- For deep scratches or large areas of stubborn stains, oil paint and paint sprayer are recommended.

11.2.1 Light Scratches & Small Areas of Stubborn Stains

This solution applies to light scratches without reaching the steel substrate and stubborn stains on the surface.

Tools and Materials Required

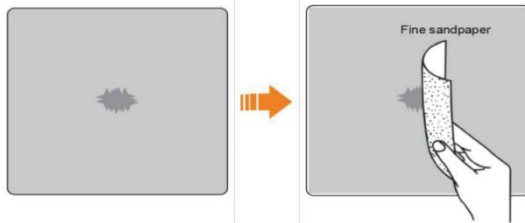
Prepare tools and enough materials according to actual conditions.

No.	Tool/Material	No.	Tool/Material
1	Spray/oil paint	2	Fine sandpaper
3	Anhydrous ethanol	4	Cotton cloth
5	Hairbrush (For small scratched area)	6	Spray paint (if there is a large area of light scratch, paint sprayer is recommended.)

Table 12-2 Tools and materials

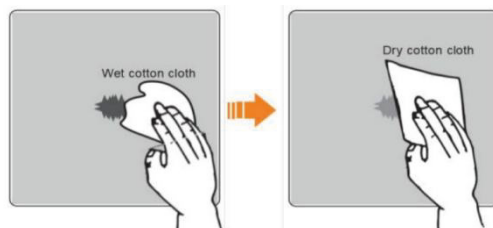
Repainting Procedure

Step 1: Gently sand the scratched area with a fine sandpaper to remove rust and stains on the surface.



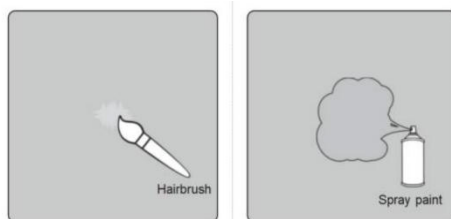
Sanding the scratched area

Step 2: Moisten a cotton cloth with anhydrous ethanol, wipe the scratched area with it to remove dust and dirt, and then use a dry cotton cloth to wipe the area dry.



Cleaning the scratched area

Step 3: Use hairbrush or spray paint to apply paint to the surface of the scratched area until it is fully and evenly covered.



Applying paint

Step 4: After completing applying the paint, wait for around 30 minutes for the paint to get dry, and then check whether the repaired area meets the requirements.

NOTICE!

The color of the repaired area shall be consistent with the surrounding area.

Use a colorimeter to measure the color difference, of which Delta E shall be ≤ 3 . If the color cannot be measured by a colorimeter, make sure that there is no obvious color difference at the edges between the repaired area and the surrounding area, as well as no bumps, scratches, flaking's, or breaks.

For spray painting, we recommend painting for at least 3 times before pausing to check the effect, and then repeat spray painting and observing until it meets the requirements.

NOTICE!

While applying paint, make sure the newly applied paint is thin and even, so that the scratched area can appear consistent and smooth on the surface.

If there is color difference between the scratched area and the surroundings, cover the surrounding area with tape or paper in case of color contamination.

12 After-Sales Service Contact Information



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