Product Model

POW-HVT-SERIES


PowMr

# HIGH-VOLTAGE LiFePO4 ENERGY STORAGE BATTERY

User Manual

# Table of Contents

# 1 Overview

## 1.1 Scope of Application

1. This user manual introduces information, operation, and maintenance guidelines for the POW-HVT series high-voltage energy storage battery products.
2. The POW-HVT high-voltage energy storage series products are lithium battery systems developed by PowMr, capable of widely matching various brand inverters in the market.
3. This manual provides information on the types, sizes, performance, technical characteristics, warnings, and precautions of lithium battery systems.
4. This specification is only applicable to battery systems provided by PowMr Energy.

## 1.2 Intended Audience

This manual is intended for professional technical personnel involved in the installation, operation, and maintenance of lithium batteries, as well as end-users seeking technical information.

## 1.3 Manual Usage

1. Before using the product, carefully review this user manual and keep it in a readily accessible location.
2. All information in this user manual, including images and symbols, is proprietary to PowMr. Unauthorized use of any part or all of the content is strictly prohibited for individuals outside the company.
1. Considering the potential for updates and corrections to the manual content, users are advised to use the provided documentation as a reference. For the latest user manual, please refer to the product documentation provided or contact customer service through the official website.

# 2 Safety Instructions

## 2.1 Declaration

To prevent incidents such as leakage, abnormal heating, ignition, performance degradation, and explosions in batteries, please adhere to the following specifications for the correct usage of the battery. Our company assumes no responsibility for accidents resulting from failure to follow the instructions outlined in this manual.

## 2.2 Precautions

### 2.2.1 Manual Storage

1. This manual covers essential information about the POW-HVT series high-voltage energy storage products. Carefully reading this manual before operating the product will provide crucial assistance in familiarizing yourself with the product.
2. This manual should be properly stored for easy access by relevant installation and maintenance personnel during operations.
3. Please strictly follow the descriptions in this manual for the operation of POW-HVT series high-voltage energy storage products. Otherwise, it may lead to equipment damage, injury, property loss, etc.

### 2.2.2 Label Protection

1. Warning labels on the body of the POW-HVT series high-voltage energy storage unit contain important information for the safe operation of the product. Tampering with or damaging these labels is strictly prohibited!
2. The unit has a nameplate containing essential parameter information. Tampering with or damaging this nameplate is strictly prohibited!

### 2.2.3 Safety Warning Labels

When performing installation, routine maintenance, and inspections of POW-HVT series high-voltage energy storage products, to prevent unrelated personnel from approaching, engaging in improper operations, or accidents, the following conventions should be adhered to:

1. Establish clear signs at the switch of the household energy storage product to prevent accidents caused by accidental closing.

2. Erect warning signs or set up safety warning tapes near the operating area to prevent unrelated persons from approaching.
3. Conduct a thorough on-site safety check after completing maintenance or inspections.

#### 2.2.4 Personnel Requirements

1. Only personnel with relevant professional qualifications are allowed to perform various operations on this product.
2. Operating personnel should be fully acquainted with the composition and working principles of the entire POW-HVT series high-voltage energy storage product system.
3. Operating personnel should be well-versed in the product's "User Manual."

#### 2.2.5 Placement and Assembly

1. Handle with care to avoid severe vibrations!
2. Do not immerse the battery and its accessories in water or other liquids, and pay attention to moisture prevention!
3. Avoid short circuits at the positive and negative output terminals of the battery pack!
4. Prohibit disassembling the battery. Disassembling the battery may cause internal short circuits, leading to substance decomposition, ignition, explosion, etc. Additionally, disassembling the battery may result in electrolyte leakage; if electrolyte splashes on the skin, eyes, or other parts of the body, rinse immediately with clean water and seek medical attention!
5. Prohibit disposing of used batteries in fire, as it may cause explosion and other hazardous incidents!
6. If the battery is damaged, deformed, leaks electrolyte, or emits an abnormal odor, cease use immediately and properly dispose of it by sending it to the manufacturer or an authorized facility. Moreover, batteries leaking electrolyte should be kept away from heat sources to avoid explosions!
7. Replacement of internal battery modules. If the battery core or BMS board is damaged, it should be replaced and installed by the battery supplier; users are not allowed to replace it themselves!

8. Prohibit unauthorized disassembly. Users are not allowed to dismantle the battery pack and charger privately; otherwise, any losses incurred due to this reason will not be the responsibility of our company.
9. Prohibit combining batteries with different capacities, models, or types!
10. Correct grounding must be performed on this product before use to ensure your safety!

#### 2.2.6 Power-On Measurement

**DANGER**

After the energy storage battery is installed, there is a high voltage present, and accidental contact with the positive and negative terminals may result in electric shock injuries. Therefore, when conducting power-on measurements, attention should be paid to the following:

1. Take necessary insulation protection measures (such as wearing insulated gloves).
2. Accompanying personnel must be present to ensure personal safety.

#### 2.2.7 Measuring Instruments

**WARNING**

When performing electrical connections and trial operations on the energy storage backup battery, and to ensure that electrical parameters meet requirements, relevant electrical measuring equipment such as multimeters, power meters, etc., should be used. Note the following:

1. Use measuring equipment with a suitable range that conforms to on-site working conditions.
2. Ensure the correct and standardized electrical connections of the instruments to avoid dangers such as electric arcs.

#### 2.2.8 Maintenance and Inspection

**WARNING**

When both the energy storage battery and the inverter are turned off, and electrical connections are confirmed to be disconnected, maintenance or inspection operations can be carried out on the energy storage battery cabinet. Pay attention to the following:

1. Ensure that the energy storage battery will not be accidentally re-energized.
2. Use a multimeter to ensure that the energy storage battery is completely de-energized.

3. For parts near potentially live components during operations, use insulating materials for insulation covering or grounding.

It is strictly prohibited to perform maintenance or inspection operations on live equipment! When performing maintenance or inspection on equipment, it must be ensured that at least two personnel are present at the site. Maintenance operations can only be carried out after the equipment is safely de-energized, fully charged, or discharged.

## 2.3 Installation Tools

Prior to installation, prepare the following tools:

| Category | Tools | | |
|---|---|---|---|
| General Tools | Multimeter  | Protective gloves  | Insulated safety shoes  |
| | Protective clothing  | Safety goggles  | Antistatic wrist strap  |
| Installation Tools | Electric screwdriver  | Socket wrench  | Wire stripper  |
| | Phillips screwdriver (M4/M6)  | Electric drill  | Hammer  |

# 3 Overview of Main Components

| No. | Image | Name | Quantity |
|---|---|---|---|
| 1 |  | Main Control box | 1 |
| 2 |  | Battery Module | 3 |
| 3 |  | Base | 1 |
| 4 |  | Power cable | 6 |
| 5 |  | Battery Communication Cable | 3 |
| 6 |  | Communication cable between battery pack and inverter (Compatible with SOLXPOW series) | 1 |
| 7 |  | Product User Manual | 1 |

* The quantity of the packaging contents mentioned above is based on the standard configuration of POW-HVT-15 with a voltage setting of 153.6V. If a different customized capacity is purchased, the quantity of some items may vary.

# 4 Product Introduction

## 4.1 Preface

This product is a high-voltage lithium iron phosphate energy storage battery designed specifically for the household and commercial energy storage market. With its integrated, compact, lightweight, intelligent, and long-cycle design features, this product boasts a sleek and attractive appearance, ensuring safety, reliability, and widespread application in the global residential and commercial energy storage markets.

## 4.2 Product Features

1. The POW-HVT high-voltage energy storage series is a lithium battery module developed by PowMr Energy for high-voltage lithium battery systems, primarily used in home or commercial energy storage applications. It achieves high-precision multi-cell voltage and temperature acquisition.
2. External communication interfaces use CAN and RS485, enabling communication in series for up to 8 battery modules.
3. The battery system incorporates a high-performance BMS (Battery Management System) module with various protection functions such as overcharge, over-discharge, overcurrent, and temperature protection. It establishes effective communication with the host to reduce the risk of battery damage, even fire, ensuring personal and property safety.
4. Covers all mainstream protocols, compatible with most inverters, and supports 1C discharge.
5. The base features a fixed pulley design, built-in manual switch, and visual monitoring interface. The touchscreen display allows for intelligent and quick debugging and testing.
6. The battery employs lithium iron phosphate (LiFePO4) material, ensuring excellent safety performance and long cycle life.
7. Automatic management of charging and discharging, with the monitoring unit automatically measuring battery charging and discharging currents and managing float charging and equalization charging.
8. Fully intelligent design with centralized monitoring functionality, enabling computer management and communication through a remote central monitoring center.

9. The combination of battery control technology and computers allows real-time monitoring and control of various parameters and statuses.
10. Flexible configuration: parallel connection of multiple battery modules to meet high-power demand.
11. Utilizes a self-cooling method, ensuring extremely low system noise during operation.

## 4.3 Reference Standards and Specifications

1. GB/T 8897.4-2008 Primary Batteries - Part 4: Safety Recommendations for Lithium Batteries.
2. QB/T 2502-2000 General Specification for Lithium-ion Batteries.
3. GB T36276-2018 National Standard for Lithium-ion Batteries for Power Storage.
4. IEC 62619-2017 Safety Requirements for Lithium-ion Batteries and Lithium-ion Battery Packs with Aqueous or Nonaqueous Electrolytes for Industrial Applications.
5. GB/T 36276-2018 Lithium-ion Batteries for Power Storage.
6. GB/T 34131-2023 Battery Management Systems for Power Storage.
7. GB/T 16935.1-2008 Insulation Coordination for Equipment within Low-Voltage Systems - Part 1: Principles, Requirements, and Tests.

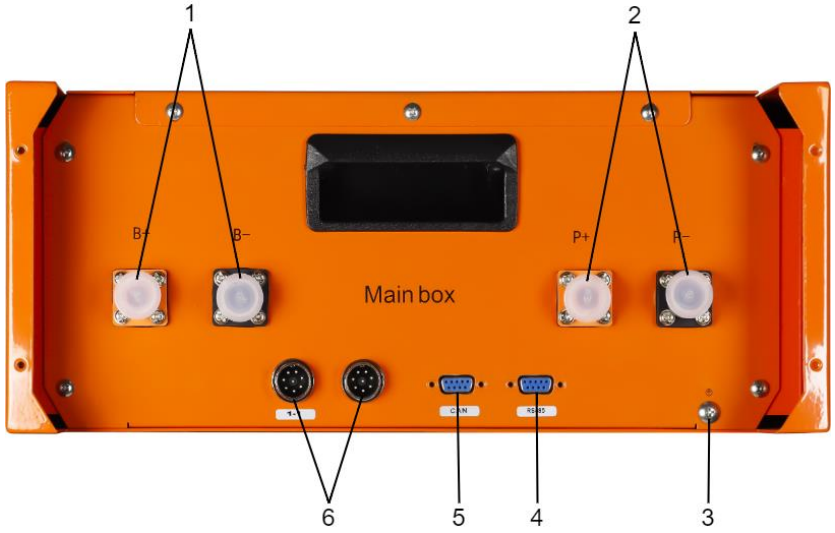
## 4.4 Product Appearance



| | | | |
|---|---|---|---|
| 1 | Main Control Box | 5 | Touch screen display |
| 2 | Base | 6 | Handle |
| 3 | Battery Module | 7 | Rear Panel |
| 4 | Low Voltage Switch | 8 | Back Port Panel |

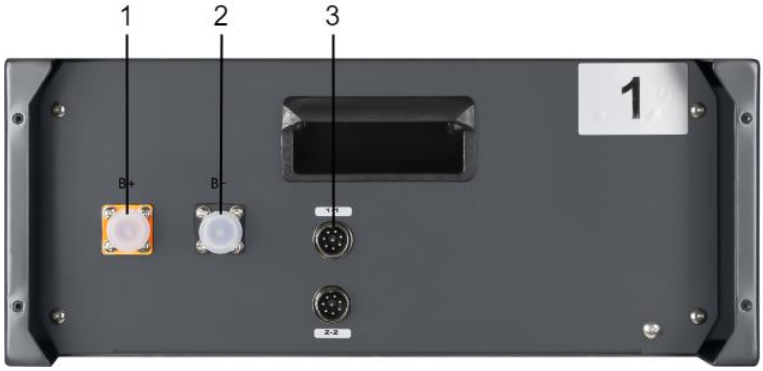
# 5 Wiring Panel Introduction

## 5.1 Main Control Box Wiring Panel




| No. | Name | Function | Notes |
|---|---|---|---|
| 1 | Battery Port | Connect to the battery port. | |
| 2 | Battery Port | Battery power output port. | |
| 3 | Ground Wire Port | Battery Pack Ground | |
| 4 | RS485 | 485 Communication Interface | Communicate with Inverter through 485 or Upper Computer |
| 5 | CAN | CAN Communication Interface | Communicate with Inverter through CAN |
| 6 | 8-Core Aviation Port | Communication Between Batteries | Match and connect 1-1 port with 1-1 port, 2-2 port with 2-2 port |

## 5.2 Battery Module Wiring Panel




| No. | Name | Function |
|---|---|---|
| 1 | Positive Pole Port (+) | Battery Positive Output |
| 2 | Negative Pole Port (-) | Battery Negative Output |
| 3 | 8-Core Aviation Port | Communication Between Batteries |

# 6 Battery Installation and Wiring

## 6.1 Video Operation Guide

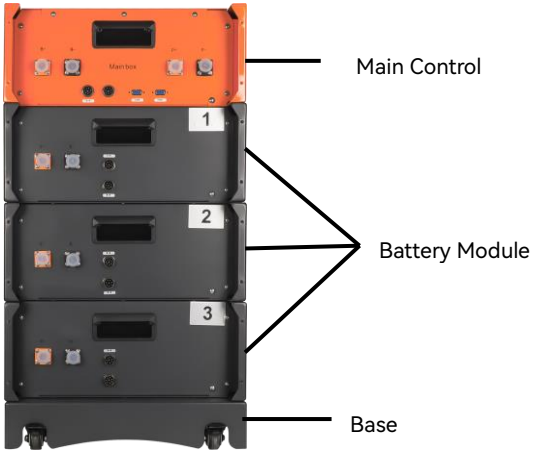
You can scan the QR code on the right to access the comprehensive video guide for the installation, wiring, and debugging of the POW-HVT series high-voltage energy storage battery. Gain in-depth insights into the complete operational tutorial for an optimized and seamless user experience.

## 6.2 Installation and Wiring

Step 1. Prepare Tools: Crosshead screwdriver, multimeter, insulated gloves.

Step 2. Unboxing Inspection: Take out the battery and other items from the packaging box, first check whether the battery's appearance is intact, and then recheck the completeness of accessories, referring to the accessory list.

Step 3. Assembly: Stack and install the components in the order of the base > battery > main control box. Each battery module needs to be stacked in sequence from larger to smaller according to the values indicated on the battery wiring panel.




**Note:**

- The maximum stacking limit for batteries is 8 modules.

Step 4. Before wiring, manually activate the low-voltage switch and use a multimeter to check if the voltages of each battery are consistent. If consistent, close the battery and begin the wiring work.

Step 5. Connect the battery modules in series using the power cables (orange-black connectors). Connect the orange connector to the orange port and the black connector to the black port.

**Cables required:**


Step 6. Connect the main control box to the battery pack using two power cables (black-black connector & orange-orange connector).

**Cables required:**

Step 7. Establish communication between the main control box and the battery using the battery communication cable. Connect the 1-1 port to the 1-1 port and the 2-2 port to the 2-2 port.

**Cables required:**

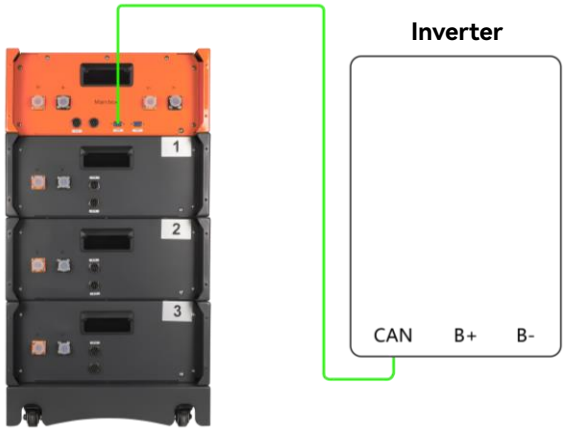

Step 8. Ground the battery pack by connecting the ground wire to the ground port on the main control box.

**Cables required:**

The grounding wire is not included in the product accessories list.

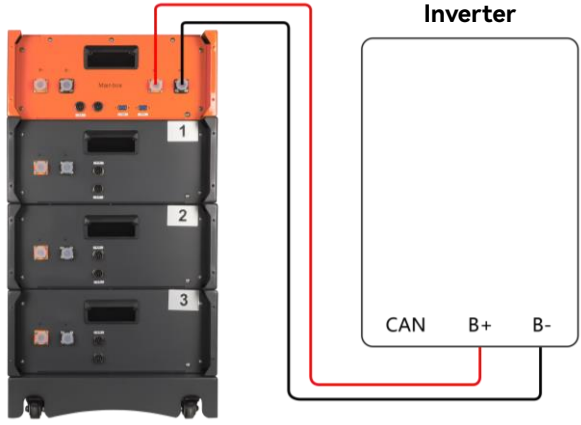
Step 9. Connect one end of the communication cable to the battery RS485A (or CAN) communication interface and the other end to the RS485 (or CAN) interface on the inverter. Note that the pin definition of the inverter communication should correspond to the battery pins, and the communication cable included in the package is suitable for communication matching in the SOLXPOW series.

**Cable required:**

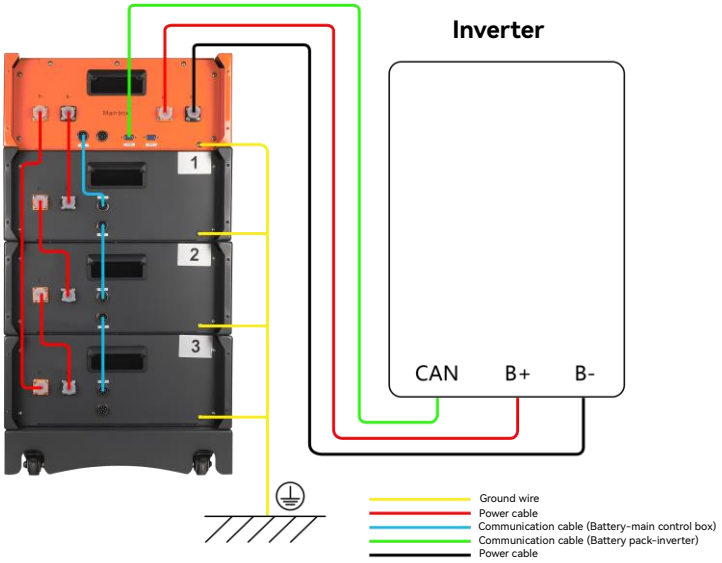



Step 10. Use the positive and negative cables connecting the inverter (with connectors on one end only) to connect the positive port of the main control box to the positive port of the inverter and the negative port of the main control box to the negative port of the inverter.

**Cable required:**



## 6.3 Wiring Overview Schematic



# 7 Operation

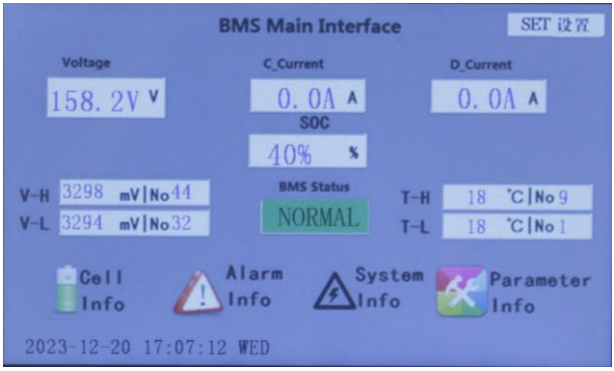
## 7.1 Battery Startup

Press the power button switch, and the battery pack will start after 3-6 seconds.

## 7.2 Interface Introduction

### 7.2.1 Home Page Interface

After starting the battery, once the initial interface is complete, the screen will display the home page.

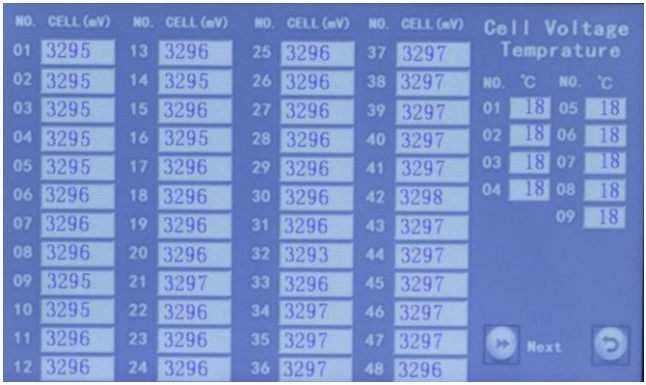



| NO. | Item | Description |
|---|---|---|
| 1 | Voltage | Overall battery voltage |
| 2 | C_Current | Current charging current |
| 3 | D_Current | Current discharging current |
| 4 | SOC | Battery state of charge |
| 5 | V-H | Highest voltage of a single cell, along with corresponding cell code |
| 6 | V-L | Lowest voltage of a single cell, along with corresponding cell code |
| 7 | BMS Status | Display BMS communication status |
| 8 | T-N | Highest temperature of a single cell, along with corresponding cell code |
| 9 | T-L | Lowest temperature of a single cell, along with corresponding cell code |
| 10 | Cell Info | Click to enter the individual cell information interface, displaying individual cell voltage and temperature |
| 11 | Alarm Info | Click to enter the alarm protection information interface, displaying alarm and protection information |
| 12 | System Info | Click to enter the system information interface, displaying relay status and insulation information |

| | | |
|---|---|---|
| 13 | Parameter Info | Click to enter the parameter information interface, displaying alarm parameters and protection parameters |
| 14 | SET 设置 | Set language version (Chinese/English) |
| 15 | Time Setting | Click on time information to set the current time. |

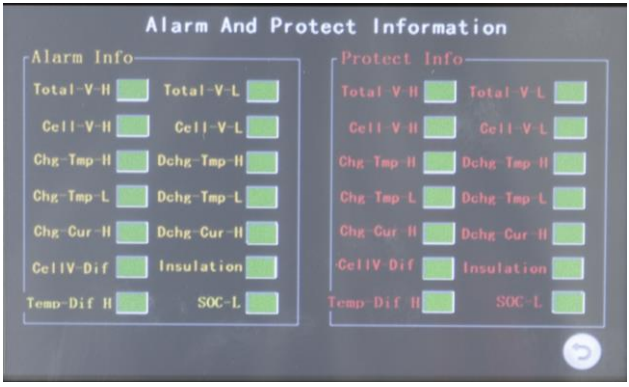
### 7.2.2 Individual Cell Information Interface (Cell Info)

Display of voltage and temperature values for each individual battery cell.



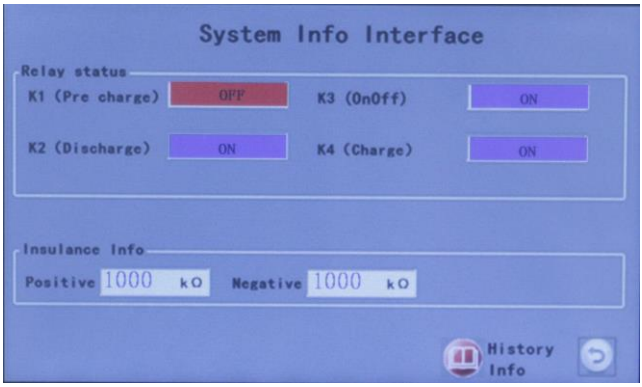

### 7.2.3 Alarm Protection Information Interface (Alarm Info)

Display of alarm and protection information. Green indicator light indicates no alarms or unprotected, while red indicator light indicates battery alarms or corresponding protection states.



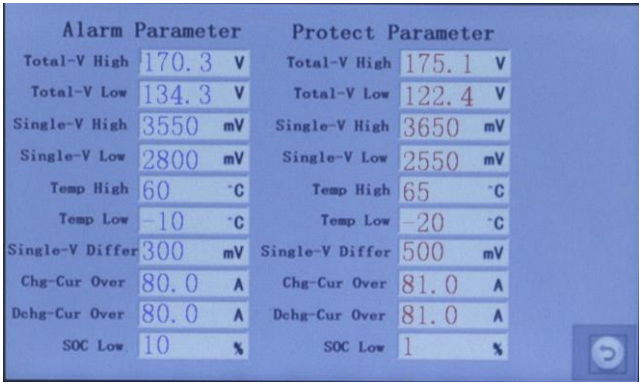
### 7.2.4 System Information Interface (System Info)

1. Relay status is used to indicate whether the battery is in pre-charge/switch/discharge/charge states.
2. Insulation information serves as a parameter standard to prevent battery leakage.




### 7.2.5 Parameter Information Interface (Parameter Info)

Display of relevant parameter values for alarms and protections.



## 7.3 Buzzer Activation Instructions

1. In case of a fault, the buzzer emits a continuous sound and initiates an automatic shutdown.
2. During protection, the buzzer emits a continuous sound until the issue is resolved.
3. In the event of an alarm, the buzzer emits a continuous sound until the situation is resolved.

✶ Buzzer functionality can be enabled or disabled through the upper computer, with the default factory setting being disabled.

## 7.4 Shutdown and Wake-up

### 7.4.1 Shutdown

The system enters low-power mode under any of the following conditions:

1. Over-discharge protection for an individual cell or the entire system remains unresolved for 30 minutes.
2. Pressing a button (3~6 seconds) and releasing it.
3. The lowest individual cell voltage falls below the sleep voltage, and the duration reaches the sleep delay time (simultaneously meeting the criteria of no communication, no protection, no balancing, and no current).

### 7.4.2 Wake-up:

When the system is in shutdown mode, it will exit this mode and enter normal operation under any of the following conditions:

1. Connecting the charger when the charger output voltage exceeds the nominal voltage of the corresponding battery pack.

| Series Quantity | 1 Battery | 2 Batteries | 3 Batteries | 4 Batteries | 5 Batteries | 6 Batteries | 7 Batteries | 8 Batteries |
|---|---|---|---|---|---|---|---|---|
| Nominal Voltage | 51.2V | 102.4V | 153.6V | 204.8V | 256V | 307.2V | 358.4V | 409.6V |

2. Pressing a button (3~6 seconds) and releasing it.

# 8 Troubleshooting Guide

| No. | Issue | Solution |
|---|---|---|
| 1 | Unable to power on, fault indicator light illuminated | Power off, restart, and restore using the reset button. |
| 2 | Screen not lit | Check the battery operation indicator light and battery level indicator light. If the battery is functioning normally, the screen may be damaged or the wiring may be disconnected. |
| 3 | Battery cannot be fully charged | Check if the inverter charging setting for SOC is set to 100%. Examine the voltage difference in individual batteries to see if any battery is already fully charged. |
| 4 | Battery cannot be fully discharged | Check if the inverter discharge setting for SOC is set to 0%. Examine the voltage difference in individual batteries to see if any battery has reached the discharge limit. |
| 5 | Insufficient discharge time | Check for excessive voltage differences on the display screen. |
| 6 | Unable to shut down properly | Reset using the reset button. If the reset is ineffective and still cannot be reset after disconnecting the load, please contact us. |
| 7 | No output current | Check if the inverter mode setting is correct. Verify if it's set to another input priority. Check the communication between the battery and the inverter. |

# 9 Battery Maintenance and Care

## 9.1 Precautions Before Using Lithium Batteries

1. Please read and keep this manual carefully.
2. Pay attention to all warning labels on the battery; do not tear or damage warning labels.
3. Before use, confirm whether the battery model matches the inverter being used. Mismatched lithium batteries and inverters may cause damage to the lithium battery and electrical devices.
4. Inspect the lithium battery for intact appearance, without obvious signs of damage, leakage, heating, immersion in water, or smoking.
5. To ensure safe transportation, the lithium battery leaves the factory with a charge of approximately 30%. Due to self-discharge during transportation and storage, the initial use may show lower or zero charge. This is a normal phenomenon; please follow the charging instructions to charge.

6. In low-temperature conditions, the available capacity of lithium batteries may experience varying degrees of attenuation. Specifically, at -10℃, the available capacity is 70%, at 0℃, it is 85%, and at 25℃, it is 100%.
7. If the battery emits odors, heats up, deforms, or shows any other abnormalities, please stop using it immediately, move away from the battery, and contact the after-sales department.

**Warning:**

- The battery is not a user-serviceable component. In the event of any abnormalities, please contact the after-sales department for inspection.
- Disassembling the battery without authorization will void the warranty policy and may lead to heating, smoking, ignition, or explosion of the battery.

## 9.2 Charging Environment

1. Use charging equipment that matches the relevant parameters of the battery. Avoid using devices with mismatched voltage for charging. The optimal charging current is 0.2CA - 0.5CA.
2. Charge the battery in an environment with a temperature of 0℃ to 45℃, ensuring there are no flammable materials in the vicinity and good ventilation.
3. Charging time should not exceed 12 hours to prevent affecting battery life and posing safety risks due to overcharging.
4. During the initial stage of charging, the battery capacity increases rapidly, and later it slows down. This is a safety program designed for charging and is considered normal.
5. In winter, when charging in low outdoor temperatures below -20℃, the battery will stop charging. This is normal. Place the battery in an environment with suitable temperatures to ensure effective charging.
6. During the charging process, the surface temperature of the battery box may increase, which is normal. Use it with confidence and avoid children's contact.

## 9.3 Storage Environment

1. Due to the internal resistance of lithium batteries, there will be some self-discharge over time when the battery is placed. A decrease in capacity after some time is normal.
2. Store the battery at temperatures between -10℃ and 45℃. Do not store the battery in an environment exceeding 50℃, as it may cause overheating, ignition, loss of function, or reduced lifespan.
3. When the battery pack is not in use for an extended period, perform regular maintenance charging; otherwise, it may lead to irreversible damage from complete discharge.
4. The most suitable storage capacity for the battery is 30%. Prolonged storage below 10% or above 50% capacity may result in irreversible capacity decay.
5. The lithium battery's safe storage self-discharge protection mode has the following technical standards:
   - When not in use for a long time, with the battery connected to a device, the safety period is a maximum of 3 months; otherwise, battery feedback may occur, and the issue may become irreparable.

- When not in use for a long time, with the battery capacity not less than 30%, stored separately, the safety period is a maximum of 6 months; otherwise, battery feedback may occur, and the issue may become irreparable.

6. Avoid storing the battery in places with a risk of falling. Falling may cause uncontrollable damage to the battery's internal components, leading to leakage, heating, smoking, ignition, or explosion.
7. Prohibit storage and use in areas with strong static electricity and strong magnetic fields; otherwise, it may damage the battery's safety protection device, posing a safety hazard.

**Warning:**

- Improper use leading to battery undervoltage and feedback is not covered under the warranty.

## 9.4 Operating Instructions

1. When connecting, ensure that the positive and negative terminals of the lithium battery and the polarity of the device connection wires are correctly aligned.
2. For the first use, charge the battery first because the battery's stored energy may be below 30% due to transportation reasons.
3. In subsequent use, try to keep the battery capacity above 10%, charge it promptly, and extend the battery's cycle life.
4. During normal use, it is advisable to reduce prolonged high-rate discharges. Follow the battery specifications for usage to extend the battery's service life.
5. Connecting the battery ends to any conductor can cause external short circuits. Different battery types may lead to varying degrees of consequences due to a short circuit, such as the battery becoming unusable, leakage, or explosion. Do not place the battery in a damp environment, and avoid mixing it with conductors (e.g., placing keys and batteries in the same pocket), as this may cause a short circuit.

**Serious Warning:**

- Avoid exposing the battery to rain or water, and never immerse the battery in water. Internal short circuits pose the risk of lithium battery explosion and fire, leading to permanent battery failure.

## 10 Inverter Match Information

| Inverter Brand | LOGO | Communication Method | Inverter Communication Pin |
|---|---|---|---|
| PowMr | PowMr | CAN | PIN4:CANH<br>PIN5:CANL |
| SOFAR | SOFAR SOLAR AUSTRALIA | CAN | PIN3,PIN5:CANH<br>PIN2,PIN4:CANL |
| INVT | invt | CAN | PIN1:CANH<br>PIN2:CANL |
| Growatt | powering tomorrow Growatt | CAN | PIN4:CANH<br>PIN5:CANL |
| MUST | MUST美世乐 | CAN | PIN6:CANH<br>PIN5:CANL |
| SOROTEC | SOROTEC Power Solutions Expert | CAN | PIN3:CANH<br>PIN5:CANL |
| PYLONTECH | PYLONTECH | CAN | PIN4:CANH<br>PIN5:CANL |
| GOODWE | 固德威 GOODWE | CAN | PIN4:CANH<br>PIN5:CANL |
| VICTRON | victron energy | CAN | PIN7:CANH<br>PIN8:CANL |
| SERMATEC | SERMATEC | CAN | PIN4:CANH<br>PIN5:CANL |
| LUXPOWER | LUXPOWER TEK | CAN | PIN4:CANH<br>PIN3:CANL |

| | | | |
|---|---|---|---|
| Voltronic Power | Voltronic Power Advancing Power | CAN | PIN6:CANH<br>PIN7:CANL |
| SOLIS | solis | CAN | PIN4:CANH<br>PIN5:CANL |
| Deye | Deye 德业 | CAN | PIN4:CANH<br>PIN5:CANL |

# 11 Specifications

| Model | POW-HVT-5 | POW-HVT-10 | POW-HVT-15 | POW-HVT-20 |
|---|---|---|---|---|
| **Electronic Specifications** | | | | |
| Rated Voltage | 51.2V | 102.4V | 153.6V | 204.8V |
| Rated Capacity | 100Ah@25℃ | | | |
| Energy | 5120Wh | 10240Wh | 15360Wh | 20480Wh |
| Months Self Discharge | <3% | | | |
| Charge Efficiency | 99.5%@ 0.2C | | | |
| Discharge Efficiency | 96-99%@ 1C | | | |
| Internal Resistance | ≤50mΩ (Fully charged, 25℃) | | | |
| Charge Voltage | 56.8V | 113.6V | 170.4V | 170.4V |
| Standard Charge Mode | 0.2C A Constant Current to 57V, then Constant Voltage 57V, until the current drops to 0.02CA, before use, rest 30 minutes (25℃±2℃, <75%RH) | | | |
| Charge Current | 20A | | | |
| Maximum Charge Current | 50A | | | |
| Charge Cut-off Voltage | 58.4V | 116.8V | 175.2V | 233.6V |
| Continuous Discharge Current | 100A | | | |
| Maximum Pulse Current | 200A (<1s) | | | |
| Discharge Cut-off Voltage | 44.8V | 89.6V | 134.4V | 179.2V |
| **Operating Temperature Range** | | | | |
| Nominal Operating Temp | 25℃± 3℃ (77℉± 5℉) | | | |
| Discharge Temp | - 20℃~ 60℃ (-4℉ ~ 140℉) | | | |
| Charge Temp | 0℃~ 45℃ (32℉ ~ 113℉) | | | |
| Storage Temp | 0℃~ 40℃ (32℉ ~ 104℉) | | | |
| **General Information** | | | | |
| Cycle life | 4000 cycles @ 0.2C 100%D.O.D | | | |
| Water Dust Resistance | IP50 | | | |
| Communicate Protocol | RS485/ CAN | | | |
| Number of Cells | 16 Strings | | | |

| Model | POW-HVT-25 | POW-HVT-30 | POW-HVT-35 | POW-HVT-40 |
|---|---|---|---|---|
| **Electronic Specifications** | | | | |
| Rated Voltage | 256V | 307.2V | 358.4V | 409.6V |
| Rated Capacity | 100Ah@25℃ | | | |
| Energy | 25600Wh | 30720Wh | 35840Wh | 40960Wh |
| Months Self Discharge | <3% | | | |
| Charge Efficiency | 99.5%@ 0.2C | | | |
| Discharge Efficiency | 96-99%@ 1C | | | |
| Internal Resistance | ≤50mΩ (Fully charged, 25℃) | | | |
| Charge Voltage | 284V | 340.8V | 397.6V | 454.4V |
| Standard Charge Mode | 0.2C A Constant Current to 57V, then Constant Voltage 57V, until the current drops to 0.02CA, before use, rest 30 minutes (25℃±2℃, <75%RH) | | | |
| Charge Current | 20A | | | |
| Maximum Charge Current | 50A | | | |
| Charge Cut-off Voltage | 292V | 350.4V | 408.8V | 467.2V |
| Continuous Discharge Current | 100A | | | |
| Maximum Pulse Current | 200A (<1s) | | | |
| Discharge Cut-off Voltage | 224V | 268.8V | 313.6V | 358.4V |
| **Operating Temperature Range** | | | | |
| Nominal Operating Temp | 25℃± 3℃ (77℉± 5℉) | | | |
| Discharge Temp | - 20℃~ 60℃ (-4℉ ~ 140℉) | | | |
| Charge Temp | 0℃~ 45℃ (32℉ ~ 113℉) | | | |
| Storage Temp | 0℃~ 40℃ (32℉ ~ 104℉) | | | |
| **General Information** | | | | |
| Cycle life | 4000 cycles @ 0.2C 100%D.O.D | | | |
| Water Dust Resistance | IP50 | | | |
| Communicate Protocol | RS485/ CAN | | | |
| Number of Cells | 16 Strings | | | |

✧ **Dimensions and Weight Reference**

| | | |
|---|---|---|
| **Dimensions** | Single Battery | 644*402*167 mm (25.35*15.83*6.57 in) |
| | Main Control Box | 644*402*167 mm (25.35*15.83*6.57 in) |
| | Base | 644*402*85 mm (25.35*15.83*3.35 in) |
| **Net Weight** | Single Battery | 46.95 kg (103.51 lb) |
| | Main Control Box | 14.37 kg (31.68 ib) |
| | Base | 8.86 kg (19.53 ib) |

PowMr

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