SK48V392N

Rechargeable Lithium Battery

Installation and Operation manual



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Version: V-1.0

If you have any suggestion or require assistance, please send us an email: sales@sokbattery.com. Please note, if no reply in 24 hours, it may go to your spam folder, please resend again. Or give us a call at: 725 765 2879 Monday-Friday 9AM - 4PM (PST).

About This Document

Purpose

This document describes the SK48V392N Rechargeable Lithium Battery in terms of its features, performance, working principles, appearance as well as instructions for installation and operation.

Intended Audience

This document is intended for:

- Sales engineers
- Technical support engineers
- System engineers
- Hardware installation engineers
- Commissioning engineers
- Maintenance engineers
- Knowledge of how an energy storage system (including PV/ lithium iron phosphate batteries /hybrid inverter, MPPT, Meter etc.) works and is operated.

Symbol Conventions

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

Symbol	Description
DANGER	Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
WARNING	Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.
NOTE	Supplements the important information in the main text. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

REVISION LOG

Version Num.	Date	Purpose of Revision
V-1.0	2026/09/16	This issue is the first official release.

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1 Information

1.1 Applicability

This document applies to the: SK48V392N Rechargeable Lithium Battery. When transporting, storing, installing, operating and maintaining the equipment, please read this manual first and strictly follow all safety precautions marked on the equipment and in the manual.

1.2 Safety

Statement

Before installing, operating, and maintaining the equipment, read this document and observe all the safety instructions on the equipment and in this document.

The "NOTICE", "WARNING", and "DANGER" statements in this document do not cover all the safety instructions. They are only supplements to the safety instructions. SOK will not be liable for any consequence caused by the violation of general safety requirements or design, production, and usage safety standards.

⚠ DANGER

- Never dispose of the battery pack in fire.
- Avoid subjecting the battery to heavy impacts.
- Refrain from compressing or puncturing the battery pack

⚠ WARNING

- Keep the battery away from heat sources, such as fireplaces.
- Avoid exposing the battery pack to direct sunlight or rain.
- Do not expose the battery pack to temperatures exceeding 85°C.

⚠ CAUTION

- Avoid handling the battery pack with wet hands.
- Only qualified personnel should disassemble the battery pack.
- Keep the battery pack away from moisture or liquid environments.

Ensure that the equipment is used in environments that meet the listed specifications. Otherwise, the equipment may become faulty, and the resulting equipment malfunction, component damage, personal injuries, or property damage are not covered under the warranty.

Follow local laws and regulations when installing, operating, or maintaining the equipment. The safety instructions in this document are only supplements to local laws and regulations.

SOK will not be liable for any consequences of the following circumstances:

- Damage caused during shipping or mishandling of the Product.
- Damage due to improper installation: loose terminal connections, under-sized cabling, incorrect series (cannot be used in series), reverse polarity connections.
- Environmental damage such as inappropriate storage conditions as defined by the Manufacturer, exposure to extreme hot or cold temperatures, fire or freezing, or water damage, impact, or collision.
- Damage due to improper operation or maintenance such as under- or over-charging the Product, cold temperature charging, lack of cleaning resulting in corroded terminal connections or build-up of dirt, debris, organic matter, fossil fuels, or chemicals on the Product casing.
- Product that has been opened, modified, tampered with or removed of manufacture date codes.
- Product that was used for applications other than which it was designed and intended for by the Manufacturer.

Emergency Treatment Measure

If a battery leaks, protect the skin or eyes from the leaking liquid. If the skin or eyes come in contact with the leaking liquid, wash it immediately with clean water and go to the hospital for medical treatment.

- **Gas Inhalation**: Evacuate the people in the contaminated area and immediately seek medical attention.
- **Eye Contact**: Flush your eye with clean and flowing water for 15 min, and immediately seek medical attention.
- **Skin Contact**: Thoroughly rinse the exposed area with soap and water to be sure no chemical or soap is left on them, and immediately seek medical attention.
- **Ingestion**: Induce vomiting, and immediately seek medical attention.

Support

If you have technical questions about the product, please contact the place of purchase or SOK Battery directly at techsupport sales@sokbattery.com.

1.3 Symbol Description

Symbols on Products Label

Label	Definition
	Maintain upward storage/transportation
	Pay attention to the positive and negative battery terminals
	Grounding point
UN38.3	The certificate label for UN38.3
	Beware of electrical shock

1.4 Abbreviation Description

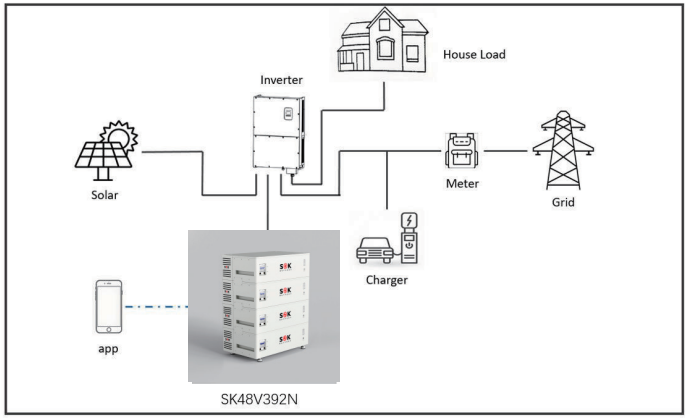
Abbreviation	Definition
Battery	Single SK48V392N rechargeable lithium iron phosphate battery pack including cells, BMS and enclosure etc.
BMS	Full name: Battery Management System Unit to ensure lithium cells' safety and display information or control the battery work mode.
SOC	Full name: State of Charge SOC is defined as the ratio of the remaining capacity to the battery capacity.
SOH	Full name: State of Health The ratio of the current battery capacity to the new battery capacity reflects the remaining life and performance of the battery.

2 Product Introduction

2.1 Features Description

The SK48V392N battery is designed for household energy application. It is composed of 16 392AH prismatic LiFePO4 battery cells connected in series. It has an advanced and reliable BMS management system, simple installation, and user-friendly Bluetooth user interface. Has the following features:

- **Cell:** 392Ah long-cycle high-capacity cell, 51.2V/392Ah low-voltage energy storage battery.
- **Installation:** Stacking as the primary option; floor-mounted and wall-mounted against wall available, flexible modular capacity expansion.
- **Protection:** IP55 dustproof and waterproof, adaptable to various operating environments.
- **BMS:** Mature BMS with full-range protection functions, compatible with most mainstream inverter protocols; supports parallel connection of up to 32 units with auto-coding for easy expansion.
- **Low-temperature performance:** Powerful low-temperature heating capability, supports charging heating at -30°C and normal discharge at -30°C.
- **Safety:** Equipped with battery rapid shutdown function and multi-layer safety protection.
- **Maintainability:** Dedicated access port design; BMS can be replaced simply by opening the cover for efficient maintenance.
- **Intelligence:** Local monitoring via Bluetooth APP and remote OTA firmware upgrade.



2.2 Specifications

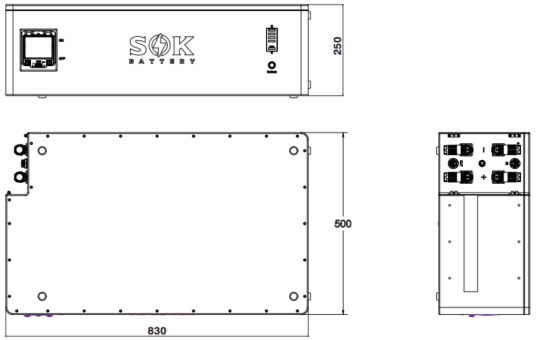
Items	SK48V392N	
Nominal Voltage	51.2V	
Charge Voltage	56.8V	
Float Charge Voltage	54.6V	
Nominal Capacity	392Ah	
Nominal Energy	20kWh	
Max. Voltage Range	43.2~58.4V	
Standard Charge Current	≤180A	
Max. Charge Current	200A	
Standard Discharge Current	≤180A	
Max. Discharge Current	200A	
Standard Charge Temperature	-22~140°F /-30~60°C (With heating function)	
Standard Discharge Temperature	-22 ~ 149°F /-30~65°C	
Storage Environment	Recommend Environment	59 ~ 95°F/15~35°C 5～75%RH
	≤6 months	23 ~ 104°F/-5 ~ 40°C 5～80%RH

Communication	RS485 /CAN/Bluetooth
Max Parallel Number	32
Dimension	19.69*9.84*32.68 inch(500*250*830mm)
Weight	About 320lb (145 Kg)

⚠ CAUTION

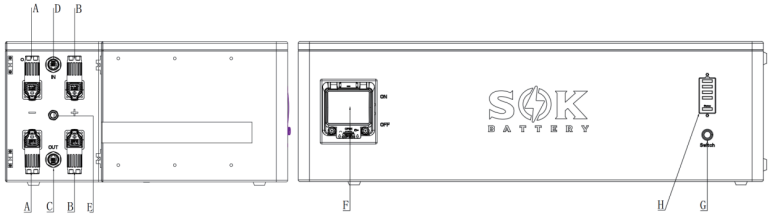
Keep your battery happy and healthy by using it between 10°C and 35°C. To ensure long life and reliable power, avoid exposing it to extreme heat or cold, which can cause premature aging and reduced performance.

2.3 Dimensions



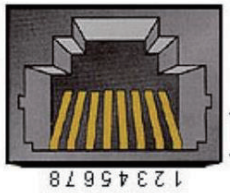
Dimension (L x W x H):
19.69*9.84*32.68 inch
500*250*830 mm

2.4 Controls And Indicators



No.	Items	Usage description
A	Negative Terminal	Used to connect the inverter/charger
B	Positive Terminal	Used to connect the inverter/charger
C	Link OUT	For internal communication
D	Link IN	For internal and external communication
E	EPO	Hardware emergency power-off interface
F	Breaker	Circuit control and current protection
G	Switch	Used to power on/off battery
H	Status light	SOC and operating status indication

2.4.1 Link OUT / Link IN



Port	Pin No.	Definition	Remarks
Link OUT	1	DO-B	Used for internal address allocation
	2	DO-A	
	3	GND	/
	4	CANH	Used for internal communication
	5	CANL	
	6	GND	/
	7	RS485-A	Used for internal communication
	8	RS485-B	
Link IN	1	DI-B	Used for internal address allocation
	2	DI-A	
	3	GND	/

	4	CANH	Used for connecting the communication of the inverter and internal communication
	5	CANL	
	6	GND	/
	7	RS485-A	Used for connecting the communication of the inverter and internal communication
	8	RS485-B	

Note: Before connecting, please read the user manual of the inverter carefully. According to the wiring port configuration of the inverter.

⚠ CAUTION

The BMS contains the CANBUS 120Ω resistance, and the BMS will automatically connect or disconnect the resistance according to the need. It is not necessary to connect the 120Ω resistance when connecting the CANBUS.

2.4.2 Battery LED Indicators

Mode	Normal/Warning/Protection	RUN	ALM	LED indicator				Description
		●	●	●	●	●	●	
Shutdown	Dormancy	OFF	OFF	OFF	OFF	OFF	OFF	ALL OFF
Standby	Normal	FLASH1	OFF	According to battery SOC				Standby
	Warning	OFF	FLASH3					
Charge	Normal	ON	OFF	According to battery state of charge				highest SOC
	Warning	OFF	FLASH3					LED: FLASH2
	Full charge/OV	ON	OFF	According to battery SOC				
	Over-current	FLASH1	OFF	According to battery SOC				Stop charging
Discharge	Normal	FLASH3	OFF	According to battery SOC				
	Warning	OFF	FLASH3					
	Under voltage	OFF	FLASH3	OFF	OFF	OFF	OFF	Stop discharging
	Over current, short circuit	OFF	ON	OFF	OFF	OFF	OFF	Stop discharging
Temperature	Protection	OFF	ON	OFF	OFF	OFF	OFF	Stop charging /discharging

Failure	Cell failure NTC failure Sensor failure MOS failure	OFF	ON	OFF	OFF	OFF	OFF	Stop charging /discharging

FLASH Type	ON	OFF
FLASH1	0.25S	3.75S
FLASH2	0.5S	0.5S
FLASH3	0.5S	1.5S

3 Installation

Please strictly follow the local safety regulations along with product technical specifications. and installation requirements.

3.1 Installation Environment

The operating environment shall meet the following requirements:

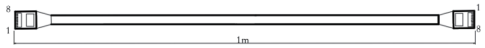
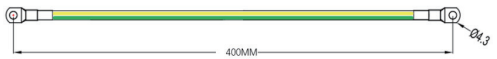
Type	Description
Temperature	-30℃-60 ℃ (maximum operating range)
Humidity	5%RH～90%RH
Altitude	0～4000m （In the 3000m to 4000m environment, derating is required)
Safety requirement	• Do not expose the battery to direct sunlight, rain and snow. • Do not place the battery in reach of children or pets. • Do not place the battery near heat source and flammable material. • Do not drop, deform, impact, cut, drill or modify the battery enclosure. • Do not store anything on top of the battery. • Do not disassemble the battery without Manufacturer's permission.

3.2 Installation Inspection

3.2.1 Unpacking

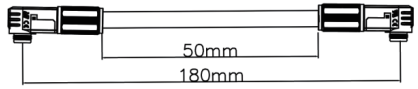
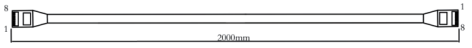
- Step 1. Check if the packing boxes are intact. If the packing case is damage, note the damage prior to accepting delivery and notify your dealer.
- Step 2. Open the box.
- Step 3. Check the number of parts on the packing list. If the quantity is different from that on the packing list, please notify your dealer.

3.2.2 Checking Components

Standard Type	Description	Quantity
Battery		1PCS
Line of Parallel		1PCS
Line of Grounding		1PCS
Fixture		2PCS
Screw	M8*20（Used during floor-standing installation ）	4PCS
Warranty Card	/	1PCS
Manual	/	1PCS
Test Report	/	1PCS

⚠ CAUTION

Please check whether the accessories are complete, if there is any problem, please contact your dealer.

Optional cable	Description (Sold separately)	quantity
Stackable installation cable		Positive 1PCS Negative 1PCS
Cable with inverter		1PCS

3.3 Installation

This product offers three installation options for your choice: stackable, wall-mounted and floor-standing.
Users need to choose different packaging configurations based on their installation method.
For stackable installation, please purchase one base battery and the required number of upper batteries for expansion.
For wall-leaning or floor-standing installation, please purchase the upper battery only.

3.3.1 Wall-Leaning Installation (Max. 4 Units Stackable)

When purchasing and configuring the batteries, please note: For wall-leaning installation, one base battery needs to be paired with N (N ≤ 3) upper batteries.
Prior to installation, remove the top and bottom fixing fasteners that secure the battery to its wooden crate. These fasteners are not required for stacked installation. Retain the removed M5×12 screws for use in Step 3.

Step 1： Select a flat and solid surface and place the base battery on it.



Step 2： When stacking the upper battery, make sure that the mounting base of the top unit aligns with the mounting groove of the bottom unit.



Step 3： After completing the stacking of the entire system, fix the two sides of the battery (Use accessory screws M5*12).



Step 4： After the system is fully assembled, the wiring connections will be made.



Step 5： Connect to the inverter.



3.3.2 Wall-Leaning Installation

For this installation configuration, separate accessory kits are required. One dedicated accessory kit is supplied per battery unit, comprising:

Wall-Leaning sheet metal brackets	2 PCS
Decorative panel	1 PCS
1.2 m positive/negative power cables	1 SET(2PCS)
Foma casters.	4 PCS

Place the battery upright and complete the installation of the wall-leaning piece. (Use three M5×12 screws to secure it to the battery, and two M8×20 self-tapping screws to secure it to the wall.)

For multi-unit installations, the battery modules may be mounted horizontally side-by-side against the wall.



3.3.3 Floor-Standing Installation

Step 1： Place the battery flat on the installation site.



Step 2： Install the appropriate screws at both ends of the battery onto the base plate.（Use accessory screws M8*20 4PCS）

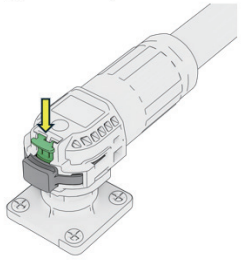




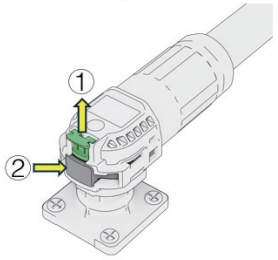
3.4 Connecting With Inverter

- Note that the power terminals are equipped with locking devices. Please use them according to the illustration.

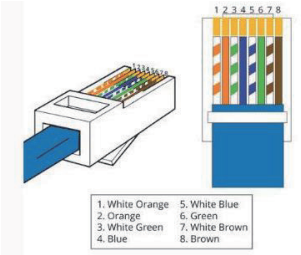
Tighten the power terminal



Loosen the power terminal



- The maximum communication cable length is required to be less than 15m between inverter/charge and battery.
- Check whether the power cable pair(s) used meets the maximum current requirement for operation.
- Connecting battery OUTPUT (+) with inverter battery INPUT (+), battery OUTPUT (-) with inverter battery INPUT (-), choose the corresponding power cable pair and wiring them correctly.
- When multiple batteries are connected in parallel, the OUT terminal of the previous battery communicates with the IN terminal of the next battery.
- The battery and the inverter communicate via CAN or RS485. When connecting, you can use either communication method to establish the connection.
- Confirm inverter AC input and PV input is disconnected before wiring connection, and the DC/ signal switch of inverter/charger is in off status.
- Please use corresponding number of power cable pairs according to the field configuration and local connection requirements, standards, and directives.
- Before installation, make sure that the battery is in the off state and the circuit breaker is in the OFF position.
- The grounding wire needs to be properly connected.



Pinout Table (1)			
Definition	Battery Port	Inverter Port	Inverter Brand
CAN H	PIN 4	PIN 4	Sol-Ark/Solis/Goodwe/Deye/EG4
CAN L	PIN 5	PIN 5	Megarevo / Luxpower/SMA/
GND	PIN 6		SRNE/ Growatt

Pinout Table (2)			
Definition	Battery Port	Inverter Port	Inverter Brand
CAN H	PIN 4	PIN 7	Victron
CAN L	PIN 5	PIN 8	
GND	PIN 6	PIN 3	

Pinout Table (3)			
Definition	Battery Port	Inverter Port	Inverter Brand
CAN H	PIN 1	PIN 3	Voltronic/ MPP (RS485)
CAN L	PIN 2	PIN 5	
GND	PIN 3	PIN	

3.5 Commissioning

3.5.1 Power On

Step 1： Make sure the harness is connected correctly.

Step 2： Hold down the switch button of the battery for 3s to start the battery.

Step 3： Set the circuit breaker to the ON position.

Step 4： Then turn on the inverter/charger isolator and other charging sources.

Step 5： Program the inverter/charger and any other charging sources as listed in the battery specifications. On inverter/charger or any other control devices, if everything is correct, you are ready to use.

3.5.2 Switch Off Battery

Step 1： Turn off the inverter.

Step 2： Set the circuit breaker to the OFF position.

Step 3： Hold down the switch button on the battery for 3s to turn off the battery.

3.6 Mobile Device APP

The user can review relevant battery data with the dedicated Bluetooth APP. The APP can be downloaded in the following two ways.

Method 1: Download directly by scanning the QR code.

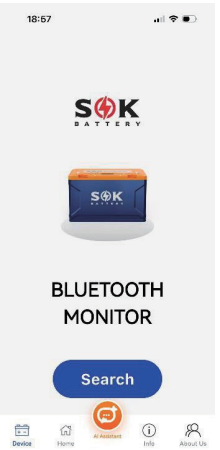
iOS system

Android system

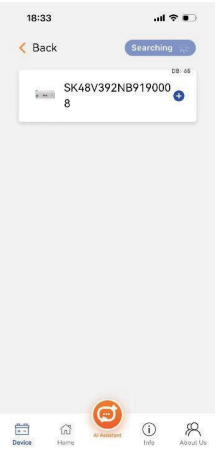
Method 2: Apple users can search for "**SOK Battery**" directly in the App Store. Android users search for "**SOK Battery**" directly in the Google Play (If the search is incorrect, you can search for "**APP: SOK Battery**").

3.6.1 Adding Batteries To The App

Step 1： Open the installed APP, and the page is displayed as follows:



Step 2： Click the "Search" button on the main page. If the device is not detected, please check whether the Bluetooth of the mobile phone is turned on or whether the battery is power-on state, and it is within the Bluetooth search range. After the battery is found, the following page is displayed:



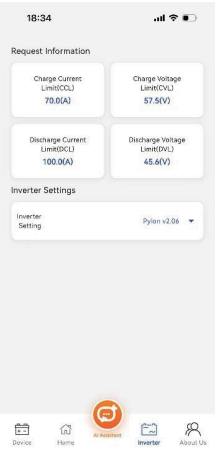
Step 3：Click the "+" button to the right of the battery information. The battery is connected successfully.

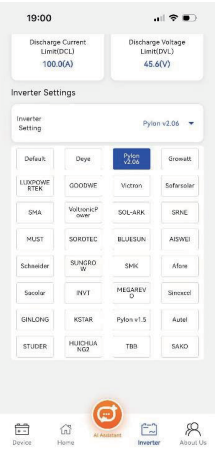
3.6.2 Battery System Information Display

After the battery system (One or more batteries are connected in parallel to form a battery system) is successfully connected, the home page is displayed. The home page displays the following information: Battery system voltage information, Battery system current information (the negative number is discharge current and the positive number is charge current), Battery system SOC information, The total number of batteries online in the system（Online QTY）. The page is displayed as follows:



After clicking on the "inverter" page, you can view the current requests and settings from the battery to the inverter. You can view CCL (Charging Current Limit), CVL (Charging Voltage Limit), DCL (Discharging Current Limit), and DVL (Discharging Voltage Limit). Multiple inverter protocols can also be selected. The interface is as shown in the following picture.

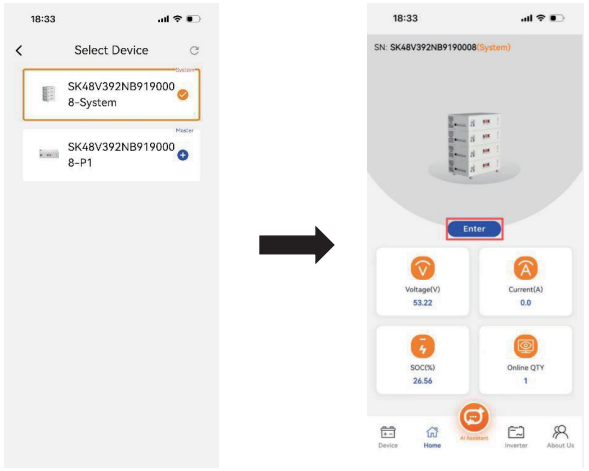




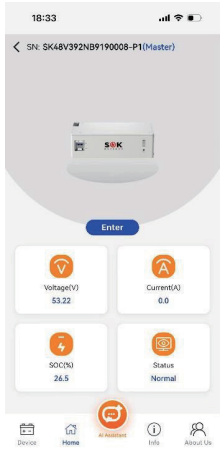
3.6.3 Battery Information Display

On the HOME page of the battery system, click "ENTER" to view the information of a single battery.

Master refers to the battery address of the host in the system (P1), while Slave refers to the battery addresses of the slave devices in the system (P2, P3, ...) .The communication port (OUT) of the host (P1) is connected to the communication port (IN) of the slave (P2). The communication port (OUT) of the slave (P2) is connected to the communication port (IN) of the slave (P3).



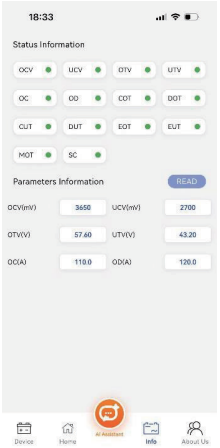
After selecting a single battery, you can view the information of that single battery. The information displayed on the HOME page of a single battery is as follows: voltage, current, SOC (State of Charge) and battery status.



After clicking the "Enter" button in the home page, you can view more detailed battery data, including detailed cell voltage, temperature information and MOS state. The page is displayed as follows:



The "info" page displays **Status Information、Parameter information.**



Status Information shows the alarm information of the battery, and the corresponding contents are as follows:

Abbreviation	Full name		Abbreviation	Full name
OCV	Over Cell Voltage		DOT	Discharging Over Temperature
UCV	Under Cell Voltage		CUT	Charging Under Temperature
OTV	Over Total Voltage		DUT	Discharging Under Temperature
UTV	Under Total Voltage		EOT	Environment Over Temperature
OC	Over Charge Current		EUT	Environment Under Temperature
OD	Over Charge Current		MOT	MOS Over Temperature
COT	Charging Over Temperature		SC	Short-Circuit

The "About Us" page contains the contact information of the manufacturer and the version information of the product, you can contact us if you have any questions.



4 Troubleshooting

Items	Solution
Unable to Start	1：Press and hold the Start button and release it after 5 seconds. 2：Use a charger or inverter to provide 53-57.6V voltage.
Unable to Charge	1：Check if the break is properly opened. 2: Check whether the battery has a charging fault, which can be observed through the Bluetooth APP. After the charging fault is eliminated, try charging again. 3：Check that the power lines and communication lines of the battery and the inverter/charger are correctly connected. 4：Check whether the inverter or charger is faulty.
Unable to Discharge	1：Check if the break is properly opened. 2: Check whether the battery has a discharging fault, which can

	be observed through the Bluetooth APP. After the discharging fault is eliminated, try discharging again. 3：Check that the power lines and communication lines of the battery and the inverter/charger are correctly connected. 4：Check whether the inverter or charger is faulty.
High/Low Temperature	1. Let the battery stand for a period of time and observe whether the temperature returns to normal. 2. Avoid continuous full charging and discharging. 3. Reduce battery power.
High Current	1: Use more batteries for parallel use. 2: Set the correct inverter parameters.
Communication Fail	1. Check the communication cable type is correct and is contacted well. 2. Check the inverter protocol related setting is correct. 3. Check both battery and inverter are working properly.
Long Time Charge	After the SOC is 100%, the battery can be charged for a long time (> 30min). This is normal because the product itself may have a capacity of > 392AH.
The Inverter Displays an Incorrect Number of Batteries	Check whether the communication cable of the battery is connected properly, and the OUT of the previous battery is connected to the IN of the next battery.
ALM Always On	Turn off all the batteries, and remove the fault battery from the system.
After the above actions, the battery still cannot be used. Please contact the supplier	

5 Disposal Of Battery

Disposal of battery must comply with the local applicable disposal regulations for electronic waste and used batteries, please review your local Battery recycling or management regulations.

6 Storage

- Store batteries in a dry, clean, dark, and well-ventilated indoor environment. The recommended storage temperature range is 10–35°C.
- Ensure the storage area is free from harmful gases, flammable/explosive materials, and corrosive chemicals.
- Avoid violent shaking, impacts, or compression during transportation. Protect the battery from exposure to sunlight and rain.
- Handle with care during loading/unloading: prevent dropping, rolling, or heavy pressure.
- Maintain batteries at approximately 50% state of charge (SOC) for storage and transport. Avoid long-term storage at SOC exceeding 70%.
- For extended periods of non-use, recharge batteries every 6 months.
- If do not use for a long time, the battery needs to be charged every 6 months.
- Prevent falls during handling. Do not stack battery units over 4 layers, and always keep them upright.