

Lithium Iron Phosphate Battery

USER MANUAL

LB-10D-USG2

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This product complies with the design requirements of environmental protection and personal safety. The storage, use, and disposal of the products shall be carried out in accordance with the product manual, relevant contracts, or relevant laws and regulations.

Revision History

Revision No.	Revision Date	Revision Reason		
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Preface

Manual Declaration

This manual provides detailed information about the LB-10D-USG2 Lithium Iron Phosphate Battery (hereinafter referred to as "LB-10D-USG2", "the product", "the battery" or the "battery module"). It covers the battery's structure, technical specifications, installation, operation, and maintenance.

The LB-10D-USG2 is an external battery module that stores electricity for home use. It charges when connected to a power source, such as the grid or a photovoltaic (PV) system. If a power outage occurs or the PV system is powered off, the battery module supplies electricity to your home.

Safety Instructions

Only qualified professionals should install, operate, or maintain this battery. Always follow the safety instructions in this manual, as well as local safety regulations, to prevent injury or equipment damage. The safety information in this manual is intended to supplement—not replace—local safety regulations. Operators must comply with all applicable laws and industry standards during installation and operation.

Hoymiles is not responsible for any damage or injury caused by improper installation, operation, or maintenance that does not comply with safety regulations.

This manual uses the following safety symbols:

Symbol	Description
⚠ DANGER	This symbol indicates potential risks that, if not avoided, may lead to death or serious physical injury.
⚠ WARNING	This symbol indicates potential risks that, if not avoided, may lead to personal injury or device damage.
△ CAUTION	This symbol indicates potential risks that, if not avoided, may lead to device malfunctions or financial losses.
NOTICE	This symbol indicates potential risks that, if not avoided, may lead to minor injury or damage to the equipment.
i NOTE	This symbol indicates an important step or tip that leads to the best results but is not safety or damage-related.

⚠ WARNING

- Keep the battery away from water and fire to prevent explosions or other life-threatening hazards.
- Ensure proper wiring during installation. Do not reverse the connections.
- Prevent short circuits. Do not connect the positive and negative terminals with a conductor on the same device.
- Avoid physical damage to the battery. Do not stab, hit, step on, or strike it.
- Turn off the power completely before removing the battery or reconnecting wires to prevent electric shock.
- Use a dry powder fire extinguisher in case of fire. Do not use liquid extinguishers, as they may cause an explosion.
- Do not disassemble any components. Only authorized technicians should perform maintenance. Unauthorized repairs may void the warranty.

- The battery is fully inspected before shipment. Contact us if you notice any abnormalities, such as a bulging outer case.
- Proper grounding is required before use to ensure safety.
- Use compatible devices. Ensure that all connected equipment meets the required specifications.
- Do not mix batteries of different manufacturers, types, models, or ages.
- · Follow storage guidelines to extend battery life. Store the battery in a suitable environment as specified in the manual.
- For long-term storage, recharge the battery every six months to at least 80% of its rated capacity.
- Recharge within 18 hours after full discharge or when over-discharge protection is activated.
- Formula of theoretical standby time: T=C/I (T is standby time, C is battery capacity, I is total current of all loads).
- Tamper-proof labels are attached to the battery cabinet. Removing them will void the warranty.

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1 Product Overview

1.1 Introduction

The LB-10D-USG2 series is a lithium iron phosphate battery (LiFePO4) system designed for home energy storage. It provides reliable electricity for various household devices, offering a long lifespan, high-temperature resistance, and a compact design for easy installation.

The LB-10D-USG2 series includes a self-developed battery management system (BMS). It stores energy when connected to the grid or a photovoltaic (PV) system and supplies power when the grid or PV system is unavailable.

Multiple units can be connected in parallel to increase storage capacity. The system supports up to 20 kWh for indoor use and 40 kWh for outdoor use.



Unless otherwise specified, any references to "the system", "the battery module" or "the battery" in this manual refer to this product.

1.2 Key Features

- Uses LiFePO₄ battery technology for high safety performance with a longer life span.
- Integrated BMS mode for better performance, preventing over-discharge, overcharge, overcurrent, and abnormal temperature conditions.
- Self-manages charging and discharging, supports single-cell balancing, and includes an integrated inspection module.
- Flexible configuration, multiple units can be connected in parallel for increased capacity and extended standby time.
- Self-ventilation reduces system noise.
- Low self-discharge allows up to six months of storage without recharging.
- No memory effect—supports partial charging and discharging.
- Works in a wide temperature range (-4°F/-20°C to +131°F/+55°C), maintaining stable discharge performance in high temperatures.
- Lightweight, space-saving design with an IP65/Type 4X-rated enclosure for easy installation and maintenance.

1.3 Labels



Figure 1-1 Nameplate



Figure 1-2 Warning Label

Table 1-1 Symbol Definition

Icon	Explanation
	Do not Throw Away Do not throw the battery into regular trash. It must be recycled by a professional facility.
	After the battery life is terminated, the battery can continue to be used after it is recycled by a professional recycling organization and not discarded at will.
\triangle	Be careful with your actions and be aware of the dangers.
<u>A</u>	High Voltage This product contains high voltage. Contact may cause electric shock.
c ® us	CSA Mark This battery meets CSA certification standards.
	Read the Manual First Read this manual carefully before performing any installation, operation, or maintenance. Keep this manual for future reference.

1.4 Product Specification

Model	LB-10D-USG2
System Data	
Battery type	LiFePO ₄
Rated capacity	200 Ah
Total energy	10.24 kWh
Rated voltage	51.2 V
Voltage range	44.8 V to 57.6 V
Rated charging current	0.5C, 100 A
Max. charging current	150 A, 10 mins
Rated discharging current	0.5C, 100 A
Max. discharging current	150 A, 10 mins
Rated charging power	5.12 kW
Max. charging/discharging power	7.68 kW/7.68 kW, 10 mins
Peak discharging current	200 A, 15s
Communication	CAN
Recommended depth of discharge (DOD)	90%
Max. parallel quantity	Max. 10 sets in parallel, 102.4 kWh ⁽¹⁾
Protection	
Overvoltage and undervoltage protection	Integrated
Overcurrent protection	Integrated
Overtemperature and undertemperature protection	Integrated
DC breaker	Integrated
General	
Dimensions (W × H × D)	21.85 × 36.54 × 8.27 inch (555 × 928 × 210 mm)
Weight	227 lbs (103 kg)
Charging temperature range	32°F to 131°F (0°C to +55°C)
Discharging temperature range	-4°F to 131°F (-20°C to +55°C)
Protection degree	Type 4X
Cooling	Natural convection
Altitude	≤6562 ft (2000 m)
Cycle life (77°F/25°C, 0.5C)	≥6000 Cycles
Certification	UN 38.3, CEC, UL 1973, UL 9540A, UL 9540
Warranty	10 Years

1.6 Interface Overview

This section describes the functions of the front panel interfaces.

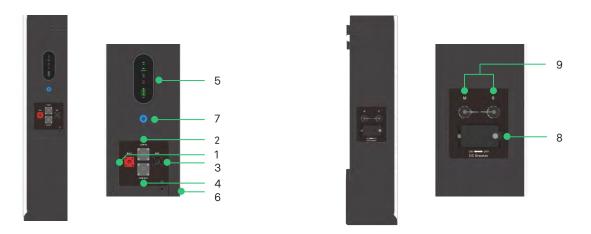


Table 2-1 Interface Definition

No.	Name	Definition	
1	Positive Socket	Battery DC output (positive pole)—connects to the positive pole of the inverter via a power cable.	
2	COMIN	When the system is used independently: Connects the CAN/RS485 socket to the inverter's CAN/RS485 interface. When the system is used in parallel: Connects to the COM OUT port of the previous LB-10D-USG2 via a communication cable.	
3	Negative Socket	Battery DC output (negative pole)—connects to the negative pole of the inverter via a power cable.	
4	COM OUT	 When the system is used independently: Reserved for future use. When the system is used in parallel: Connects to the COM IN port of the next LB-10D-USG2 via a communication cable (factory default: CAN communication mode). 	
5	LED Indicator	Displays battery status.	
6	Ground Connection Point	Connects the battery module to the ground for safety.	
7	Power Switch Button	Turns the battery system on. When not in use (e.g., storage or transport), press the power switch button to turn it off. If no external load or power is connected for 72 hours, the system will automatically enter sleep mode.	
8	DC Circuit Breaker	Provides circuit protection for the battery system.	
9	COM	Communication cascade port.	

1.7 LED Indications

Battery Status		Battery Status LEDs			Battery Level LEDs				
Status	SOC (%)	RUN	BAT STATE	СОМ	FAULT	LED1	LED2	LED3	LED4
Shutdown	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	75 <soc≤100< td=""><td>•</td><td>OFF</td><td>•</td><td>OFF</td><td>•</td><td>•</td><td>•</td><td>•</td></soc≤100<>	•	OFF	•	OFF	•	•	•	•
	50 <soc≤75< td=""><td>•</td><td>OFF</td><td>•</td><td>OFF</td><td>•</td><td>•</td><td>•</td><td>OFF</td></soc≤75<>	•	OFF	•	OFF	•	•	•	OFF
Standby	25 <soc≤50< td=""><td>•</td><td>OFF</td><td>•</td><td>OFF</td><td>•</td><td>•</td><td>OFF</td><td>OFF</td></soc≤50<>	•	OFF	•	OFF	•	•	OFF	OFF
	0 <soc≤25< td=""><td>•</td><td>OFF</td><td>•</td><td>OFF</td><td>•</td><td>OFF</td><td>OFF</td><td>OFF</td></soc≤25<>	•	OFF	•	OFF	•	OFF	OFF	OFF
	SOC=0	•	OFF	•	OFF	OFF	OFF	OFF	OFF
	SOC=100	•	OFF	•	OFF	•	•	•	•
	75 <soc≤100< td=""><td>•</td><td>•</td><td>•</td><td>OFF</td><td>•</td><td>•</td><td>•</td><td>Flashing</td></soc≤100<>	•	•	•	OFF	•	•	•	Flashing
	50 <soc≤75< td=""><td>•</td><td>•</td><td>•</td><td>OFF</td><td>•</td><td>•</td><td>Flashing</td><td>OFF</td></soc≤75<>	•	•	•	OFF	•	•	Flashing	OFF
Charging	25 <soc≤50< td=""><td>•</td><td>•</td><td>•</td><td>OFF</td><td>•</td><td>Flashing</td><td>OFF</td><td>OFF</td></soc≤50<>	•	•	•	OFF	•	Flashing	OFF	OFF
	0 <soc≤25< td=""><td>•</td><td>•</td><td>•</td><td>OFF</td><td>Flashing</td><td>OFF</td><td>OFF</td><td>OFF</td></soc≤25<>	•	•	•	OFF	Flashing	OFF	OFF	OFF
	SOC=0	•	•	•	OFF	OFF	OFF	OFF	OFF
	75 <soc≤100< td=""><td>•</td><td>Flashing</td><td>•</td><td>OFF</td><td>•</td><td>•</td><td>•</td><td>•</td></soc≤100<>	•	Flashing	•	OFF	•	•	•	•
	50 <soc≤75< td=""><td>•</td><td>Flashing</td><td>•</td><td>OFF</td><td>•</td><td>•</td><td>•</td><td>OFF</td></soc≤75<>	•	Flashing	•	OFF	•	•	•	OFF
	25 <soc≤50< td=""><td>•</td><td>Flashing</td><td>•</td><td>OFF</td><td>•</td><td>•</td><td>OFF</td><td>OFF</td></soc≤50<>	•	Flashing	•	OFF	•	•	OFF	OFF
Discharging	10≤SOC≤25	•	Flashing	•	OFF	•	OFF	OFF	OFF
	0 <soc<10< td=""><td>•</td><td>OFF</td><td>•</td><td>OFF</td><td>•</td><td>OFF</td><td>OFF</td><td>OFF</td></soc<10<>	•	OFF	•	OFF	•	OFF	OFF	OFF
	SOC=0	•	OFF	•	OFF	OFF	OFF	OFF	OFF

^{*} The COM light is always on, indicating that the communication between the inverter and the battery is normal.

2 BMS Function

2.1 Voltage Protection

Over-Voltage Protection (Charging):

If the total battery pack voltage exceeds the rated limit or any single battery cell voltage reaches the protection value during charging, the system will stop charging. Charging resumes when all voltages return to the normal range.

Low Voltage Protection (Discharging):

If the total battery pack voltage or any battery cell voltage drops below the protection threshold during discharge, the system will activate over-discharge protection and stop supplying power. The battery buzzer will sound an alarm. Power output resumes when all voltages return to the normal range.

2.2 Current Protection

Over-Current Limit (Charging):

If any module's charge current exceeds 180 A, current protection will activate, reducing the charge current to ≤3 A. The system will check every 10 seconds and continue this cycle until the current drops below 180 A.

Over-Current Protection (Discharging):

If any module's discharge current exceeds 200 A, the battery buzzer will sound an alarm. The system will stop discharging after 15 seconds. Discharging will automatically resume after 60 seconds or immediately if charging starts.

NOTICE

The buzzer alarm can be manually disabled in the system software. The factory default setting is ON.

2.3 Temperature Protection

Temperature Protection (Charging)

If the battery temperature is outside the safe charging range (32°F/0°C to 149°F/65°C), charging will stop. Charging resumes once the temperature returns to the normal range.

Temperature Protection (Discharging)

If the battery temperature is outside the safe discharging range (-4°F/-20°C to 149°F/65°C), the system will stop supplying power. Power output resumes when the temperature returns to the normal range.

2.4 Other Protections

Short Circuit Protection (The product is activated from the off state)

If a short circuit occurs while the battery is active, the BMS short circuit protection will automatically cut off the output.

Auto Shutdown

If the product remains unused with no connected loads for more than 72 hours, it will enter standby mode automatically.

⚠ CAUTION

The maximum operating current required by your electrical load must be lower than the battery module's maximum discharge capacity.

3 Pre-Installation

3.1 Safety Requirements

The safety regulations and local safety regulations listed below should always be followed during the installation.

- This system can only be installed by personnel who have been trained in the power-supply system and have sufficient knowledge of the power system.
- · Only trained personnel with sufficient knowledge of power supply systems should install this system.
- Operators must wear protective gear, including safety goggles, protective suits, insulated gloves, and safety shoes.
- All circuits connected to this system with an external voltage below 48V must comply with SELV requirements as defined in IEC 60950.
- Before working inside the power system cabinet, ensure the system is powered off, and switch off the battery devices.
- Route distribution cables properly and use protective measures to prevent accidental contact while operating power equipment.

3.2 Environmental Requirements

Ensure the installation site meets the following conditions for optimal performance and safety:

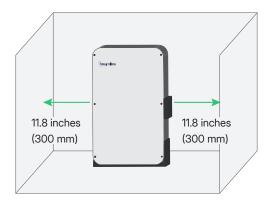
· Temperature Range:

Operating (°F)	Charging (°F)	Discharging (°F)	Storage (°F)
-4 to +131 (-20°C to +55°C)	+32 to +131 (0°C to +55°C)	-4 to +131 (-20°C to +55°C)	+14 to +95 (-10°C to +35°C)

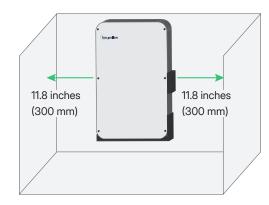
- Altitude: ≤ 13,123 ft (4000 m)
- Environmental Conditions:
 - Avoid direct sunlight, strong wind, conductive dust, and corrosive gases.
 - Never install near the sea to prevent exposure to brine and high humidity (relative humidity: 5% to 85%RH).
 - Keep away from flammable and explosive materials.
 - Install on a flat, stable surface.
 - Keep the area clean and free from dust and clutter.
- Ambient Temperature Range: 59°F to 86°F (15°C to 30°C) for best performance and longevity.

3.3 Clearance Requirements

- Mount the battery on a solid brick or cement wall at least 3.9 inches (100 mm) thick. The wall must support the system's total weight.
- Leave at least 11.8 inches (300 mm) of clearance on the left side and right side for proper ventilation and access.



Floor-standing Installation



Wall-mounted Installation

3.4 Required Tools

Installation tools include but are not limited to the following recommended ones. If necessary, use other auxiliary tools on site.



3.5 Inspections

3.5.1 Electrical Interface Check

Before connecting devices to the battery, verify the following:

Item	Check Method
Compatibility	Ensure the connected device is a user device, power supply, or other compatible power source.
DC Output Interface Confirm that the user equipment, PV equipment, or other power supplies have a DC output interface.	
Voltage Range	Measure the output voltage of the standby interface that falls within the required range specified in 1.4 Product Specification.
Current Capacity	If the maximum discharge capacity of the DC interface is lower than the required charging current, the user equipment must have a DC current limiting function to ensure stable operation.

3.5.2 Safety Check

- Place firefighting equipment (such as a portable dry powder fire extinguisher) near the installation area.
- Install an automatic fire suppression system if necessary.
- Do not store flammable, explosive, or hazardous materials near the battery.

3.5.3 Engineering Coordination

Before installation, ensure the following:

- Power Cable Specification: The power cable must support the maximum discharge current required for the product.
- Installation Space: The installation site has enough space for the battery (see 3.3 Clearance Requirements).
- Load Capacity: The battery rack and brackets can support the battery's weight.
- Cable Routing: Arrange power and ground cables properly to prevent short circuits, water exposure, and corrosion.

4 Installation

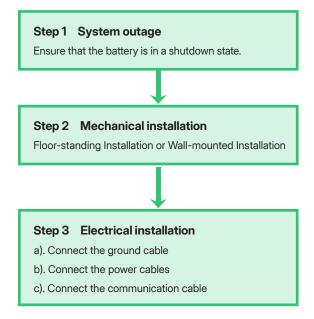
4.1 Unpacking

⚠ CAUTION

- Follow proper loading and unloading procedures to prevent damage and avoid exposure to sunlight and rain.
- Handle with care to protect the surface coating of the equipment.
- Before unpacking, check the total number of packages against the shipping list.
- Inspect the external packaging for any visible damage.
- Operators should review the technical documents and verify the contents against the configuration table and packing list.
- Ensure all components are complete and undamaged. If any internal packaging is damaged, report it immediately.

Item	Specification		Figure
Battery	51.2 V/200 Ah	1	Sea de la companya de
Power Cable (Positive)	Red, 3 AWG (25 mm²), 6.7 ft (2050 mm)	1	
Power Cable (Negative)	Black, 3 AWG (25 mm²), 6.7 ft (2050 mm)	1	-
Ground Cable	12 AWG (4 mm²), 3 m	1	Ŏ
Communication Cable to Inverter	Black, 6.6 ft (2 m), Double RJ45 plug	1	19
Communication Parallel Cable	Black, 6.6 ft (2 m), Double RJ45 plug	1	8
RJ45 Waterproof Connector	To pole of battery	2	
User Manual	1	1	USS NAMES,
CAN resistor	120 Ω	1	
Hexagon Socket Button Head Screw	M6	8	
Expansion screw	M6	8	
Cardboard	Positioning cardboard	2	
Battery Bracket	Battery Bracket /		
Fixing bracket	1	1 Pair	
Allen Wrench	M3	1	

4.2 Installation Procedure



4.3 Mechanical Installation

4.3.1 Floor-Standing Installation

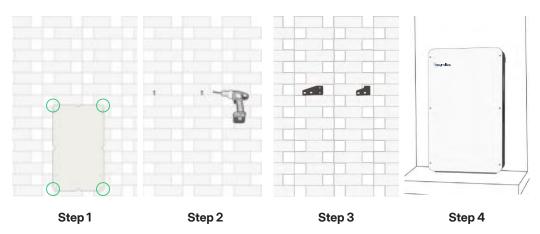
When the battery system is placed directly on the ground, a fixed support must be used to fix the top of the battery box on the wall.

Step 1 Use the positioning cardboard (included in the accessory package) to mark the screw hole positions on the wall.

⚠ CAUTION

Ensure the bottom edge of the cardboard sits flat against the ground while marking.

- Step 2 According to the position of the mark, drill four holes (0.4 inches/10 mm diameter) at least 2.8 inches (70 mm) deep to fit the M6 expansion bolts.
- Step 3 Align the fixing brackets with the drilled holes, then secure them to the wall using M6 expansion screws. (Torque: 6 N•m)
- Step 4 Position the battery module approximately 0.6 inches (15 mm) away from the wall. Secure the fixing brackets to the upper part of the battery module using M6 bolts. (Torque: 6 N•m)



4.3.2 Wall-Mounted Installation

Required Tools

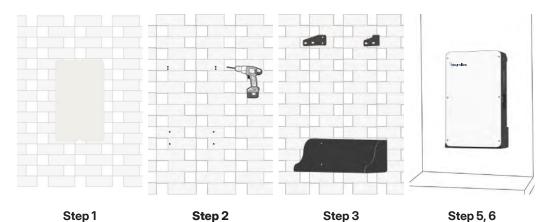
- · Electric drill
- Positioning cardboard (provided)
- M6 bolts and expansion bolts

Procedure

Step 1 Use the positioning cardboard (included in the accessory package) to mark screw hole positions on the wall.

A CALITION

- Ensure the bottom edge of the cardboard sits flat against the wall.
- Position the bottom of the cardboard 11.8 inches (300 mm) above the ground.
- Step 2 According to the position of the mark, drill eight holes (0.4 inches/10 mm diameter) at least 2.8 inches (70 mm) deep to fit the M6 expansion bolts.
- Step 3 Align the fixing brackets and battery bracket with the drilled holes, then secure them to the wall using M6 expansion screws. (Torque: 6 N•m)
- **Step 4** Lift or hoist the battery modules onto the bottom battery bracket.
- Step 5 Secure the upper fixing brackets to the upper part of the battery module using M6 bolts. (Torque: 6 N•m).
- Step 6 Secure the bottom battery brackets to the lower part of the battery module using M6 bolts. (Torque: 6 N•m).



4.4 Electrical Installation

4.4.1 Pre-installation Checks

Before connecting the power cables, follow these steps to ensure safety and accuracy:

Item	Tools	Methods
Cable Continuity	Multimeter	Use a multimeter in buzzer mode to test both ends of the same-colored cable. If the buzzer sounds, the cable is functional.
Short Circuits Multimeter		Set the multimeter to resistance mode and probe the positive and negative ends of the cable. If the resistance reading is infinite, the cable is safe to use.
Polarity and Labeling	1	The battery module's positive pole is connected to the opposite terminal's positive pole, and the negative pole is connected to the opposite terminal's negative pole. All cables are labeled correctly to prevent connection errors.

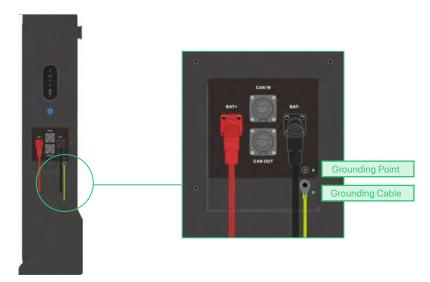
4.4.2 Connect the Ground Cable

Required Parts

- M6 OT Terminal
- 12 AWG (4 mm²) Ground Cable

Procedure

- **Step 1** Crimp the M6 OT terminal onto one end of the ground cable.
- **Step 2** Attach the crimped end of the ground cable to the battery module's grounding point.
- **Step 3** Secure the crimped ground cable to the battery module's grounding point.
- **Step 4** Fasten the bolt to 6 N•m torque to ensure a secure connection.



⚠ CAUTION

If you encounter any issues, contact our technical support team at hoymiles.com/support/ to avoid equipment damage.

4.4.3 Connect the Inverter

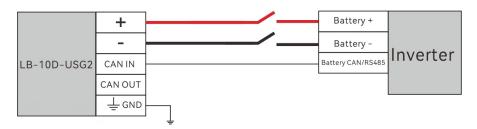
⚠ CAUTION

- Before connecting the battery to the inverter:
 - Confirm the positive (+) and negative (-) terminals on both the inverter input interface and the battery output interface
 - Connect the red power cable to the positive (+) terminal and the black power cable to the negative (-) terminal.
 - Ensure that the inverter's voltage and current parameters meet the battery specifications listed in 1.4 Product Specification.
 - Confirm the charge and discharge parameters of the inverter interface.
- Confirm communication between the battery and inverter. To check if the inverter and battery system are communicating properly:
 - a). On the inverter, locate the maximum charge and discharge current value sent by the battery.
 - b). Use the following formula to verify communication: (Displayed charge/discharge current on inverter) ÷ (Maximum charge/discharge current of one battery module) = Number of modules
 - c). If the calculation is correct, communication is normal;

 If the COM light is OFF, there may be a communication failure between battery modules or between a battery module and the light board. You can refer to 6.1 Alarm Troubleshooting List for solutions.

Use only the dedicated power and communication cables provided in the package.

Topology Diagram

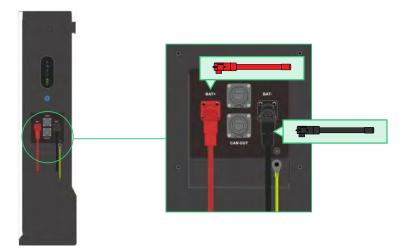


Procedure

- **Step 1** Ensure the battery system is powered off.
- **Step 2** Connect one end of the power cable to the input side of the inverter, the other end to the battery.

⚠ CAUTION

The battery output interface uses quick connectors, allowing the power cable (positive and negative) to be inserted directly into the battery socket.



Step 3 Use an RJ45 cable to connect the CAN IN port on the battery to the CAN or RS485 communication interface on the inverter.

△ CAUTION

If your inverter is not covered by the standard communication cable, ensure only PINs 4 and 5 are used.

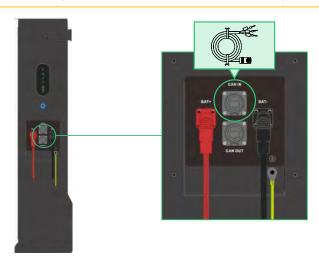


Table 4-1 CAN IN Definition

Foot Position	Color	Definition	
PIN 1	Orange/White	485B	
PIN 2	Orange	485A	
PIN 3	Green/White	Reserve	12345678
PIN 4	Blue	EXT CANH	
PIN 5	Blue/White	EXT CANL	
PIN 6	Green	Reserve	
PIN 7	Brown/White	INT CANH	
PIN 8	Brown	INT CANL	

Battery & Inverter Power Matching Guidelines

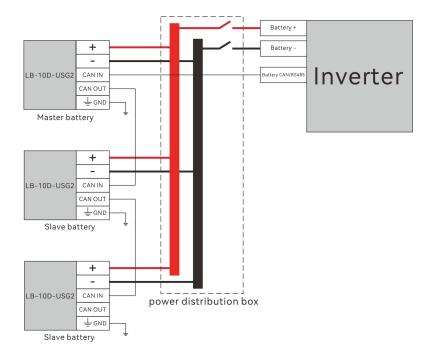
Function	Guidelines
Charging	The battery modules' long-term continuous charging current should be ≤ 0.5C.
	If the battery module is fully discharged, recharge it within 48 hours.
Discharging	The battery modules' long-term continuous charging current should be ≤ 0.5C.
	The battery pack's recommended maximum Depth of Discharge (DOD) is ≤ 90%.

4.4.4 Parallel System Setup

When using the system in parallel, up to 10 LB-10D-USG2 battery modules can be connected.

Required Components (Example: three units in parallel)

- To connect 3 LB-10D-USG2 modules in parallel, you will need:
- Power cables: 3 pairs
- Battery-to-inverter communication cable: 1 piece
- Battery-to-battery communication cables: 2 pieces
- Distribution box: 1 piece (Ensure its over-current capacity exceeds the system's maximum nominal current during operation)



5 Power-On

After completing the electrical installation, follow these steps to power on the battery system.

Step 1 Power On the Battery

- a). Check and ensure the breaker is in the ON position.
- b). Press the power switch button. The power switch button LED indicators will turn on and it will turn green after the system completes its self-check.



After pressing the power switch button, if the battery status LED indicator does not display correctly, please refer to the <u>6.1 Alarm Troubleshooting List</u>. If the issue persists, contact our technical support team at <u>hoymiles.com/support/</u> immediately.

Step 2 Verify Battery Operation

Use a voltmeter to measure the voltage between the BAT+ and BAT- terminals on the inverter. Ensure that:

- The voltage is higher than 44.8V.
- The polarity matches the inverter's input polarity.

If the voltage is correct, the battery is operating normally.

Step 3 Power On the Inverter

- a). Confirm that the battery output voltage and polarity are correct.
- b). Turn on the inverter.
- c). Turn on the circuit breaker.

Step 4 Check System Status

Verify that the inverter's communication and battery access indicator lights are functioning normally. If any indicator light shows an abnormal status, refer to the inverter manual or contact our technical support team at https://example.com/support/.

6 Troubleshooting

When the system enters protection mode or encounters a failure, the LED indicator on the front panel will light up to signal an alarm. You can check the alarm details through the network management system and take the necessary action.

6.1 Alarm Troubleshooting List

If an alarm affects the system's power output—such as over-current, under-voltage, or temperature protection—take action based on the troubleshooting steps in the following table.

Table 6-1 Troubleshooting List

Mode	Alarm Type	LED Status	Solution
Charge	Over-Current Protection	Red light (solid) + Buzzer	Reduce the charging current below the rated value.
	High Temp. Protection	Red light (solid)	Stop charging and find out the cause of the trouble.
Discharge	Over-Current Protection	Red light (solid) + Buzzer	Stop discharging and reduce the discharge current below the rated value.
	High Temp. Protection	Red light (solid)	Stop discharging and find out the cause of the trouble.
	Over-Discharge Protection	Blue/White light + Buzzer	Start charging the battery.

6.2 Common Issues Troubleshooting List

Table 6-2 Common Issues Troubleshooting List

Issue	Possible Cause	Solution
No indicator response after powering on.	The power switch button may not be pressed correctly.	Press and hold the power switch (Reset switch) button for 3 seconds.
No DC output after powering on.	The DC breaker may be off.	Check the DC circuit breaker on the side of the battery module and turn it on if needed.
No DC output, red light ON, and buzzer beeping	The battery voltage is too low.	Charge the battery system.
The battery cannot be fully charged.	Charging voltage is too low.	Adjust the charging voltage to 56.5 V to 57.6 V.
Sparks from the power cable are on startup, and the red ALM light is ON.	Power connection short-circuit.	Turn off the battery and check the cause of the short circuit.
COM light OFF.	Communication failure between the battery module and the light board.	Check the external communication cable. Check the internal communication cable.
_	Communication failure between the battery modules.	Check the external communication cable.

If the issue persists or you need technical assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our technical support team at https://montechnical.org/ assistance, contact our techni



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