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USER MANUAL



Model

FLB48230WG1-H

51.2V/11.7kWh

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Contents

1. Safety Introductions.....1
1.1 Warning.....1
1.1.1 Before Connecting.....1
1.1.2 In Using.....1
1.1.3 Battery Pack Case Overheating Warning.....1
1.2 Caution.....2
2. Transportation.....3
3. Introductions.....4
3.1 Symbol Definition.....4
3.2 Brief Introduction.....4
3.3 Features.....5
3.4 Product Overview.....5
3.4.1 External Packaging.....5
3.4.2 Product Appearance Display.....5
3.5 LCD Display Icons.....7
3.5.1 ON/OFF or SOC Led(Mode or SOC).....7
3.6 Battery Management System(BMS).....8
3.7 System Connection Diagram.....8
4. Installation and Configuration.....9
4.1 Preparations for Installation.....9
4.1.1 Safety Requirement.....9
4.1.2 Installation Environment.....9
4.1.3 Tools.....10
4.2 Unpacking Inspection.....10
4.3 Installation Procedure.....12
4.3.1 Mounting the Battery.....12
4.3.2 Batteries in parallel.....15
4.3.3 Series connection is not allowed.....16
5. Operation.....16
5.1 Description of Communication port.....16
5.2 Switch On/Off.....17

6. Manage Devices Via Network.....18
6.1 Configure Network.....18
6.1.1 Download APP.....18
6.1.2 Connect to Built-in WIFI wireless network.....18
6.1.3 Configure the network.....19
6.2 Create the Plant.....20
6.2.1 Manage devices via APP.....20
7. Maintenance and Troubleshooting.....21
7.1 Storage.....21
7.2 Maintenance Troubleshooting.....22
7.2.1 Analysis and Treatment of Common Faults.....22
7.2.2 Fault Code.....23
8. Battery recovery.....23
8.1 Recovery process and steps of cathode materials.....23
8.2 Recovery of anode materials.....23
8.3 Recovery of diaphragm.....23
8.4 List of recycling equipment.....23
Appendix I.....24

Revision History

Revision No.	Revision Date	Revision Reason
1.0	2025.9	First Published

About This Manual

The manual mainly describes the introduction, installation, operation, and maintenance. Please read this manual carefully before installation and operation. Keep this manual for future reference.

How to Use This Manual

Please read this manual and all relevant documents thoroughly before carrying out any operations on the battery. Ensure that the documents are stored securely and remain accessible at all times. The content may be periodically revised or updated to reflect product improvements.

1. Safety Introductions

1.1 Warning

1.1.1 Before Connecting

- After unpacking, inspect the product and packing list carefully. If any damage is found or parts are missing, please reach out to your local retailer for assistance.
- Before starting the installation, disconnect the grid power and confirm that the battery is turned off.
- Ensure proper wiring by connecting the positive and negative cables correctly and avoiding any short circuits with external devices.
- Directly connecting the battery to AC power is strictly prohibited.
- The battery system must be properly grounded, with a grounding resistance of less than 1Ω.
- Verify that the electrical parameters of the battery system are fully compatible with the connected equipment.

1.1.2 In Using

- If the battery system needs to be moved or serviced, ensure that the power is disconnected and the battery is fully powered down.
- Connecting the battery with a different type of battery is strictly prohibited.
- Do not operate the batteries with a faulty or incompatible inverter.
- Disassembling the battery is not allowed.
- In the event of a fire, only dry powder fire extinguishers should be used; liquid fire extinguishers must not be used.
- Please refrain from opening, repairing, or disassembling the battery unless performed by Felicitysolar staff or personnel authorized by Felicitysolar. Any consequences or responsibilities arising from improper operation or violations of design, manufacturing, or equipment safety standards will not be assumed by us.
- Keep the battery away from water and fire.



1.1.3 Battery Pack Case Overheating Warning

In this battery pack design, the MOSFETs on the BMS board are tightly attached to the case to enable heat conduction and dissipation through the case. This design causes the case to heat up during operation. This is a normal occurrence and a natural result of the energy conversion and heat dissipation design, and it will not affect the normal performance or lifespan of the battery pack.

It is particularly important to note that the surface temperature of the case may become high. To prevent burns or other accidental injuries, do not touch the surface of the case directly. During the operation of the battery pack, please maintain a safe distance from the case, especially after prolonged use, and be extra cautious to avoid contact.

In addition, to ensure that the battery pack remains in an optimal heat dissipation state and maintains stable performance, please ensure proper ventilation around the case during use and avoid using the battery pack in enclosed, high-temperature, or poorly ventilated environments.

If you notice that the temperature of the case rises abnormally during use (such as exceeding the normal heat range, accompanied by unusual noises or smells, etc.), please stop using the battery pack immediately and contact professional technicians for inspection and maintenance. Do not attempt to disassemble or handle it yourself to avoid potential safety risks.

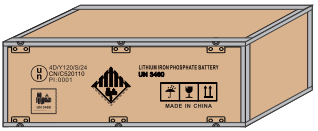


1.2 Caution

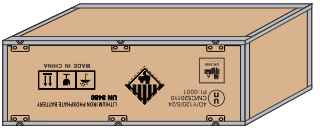
- Our products undergo rigorous inspection before shipment. If you notice any unusual signs, such as the device casing bulging, please contact us promptly.
- The product must be properly grounded prior to use to ensure safety.
- To ensure correct usage, verify that the parameters of the connected devices are compatible and matched. Avoid mixing batteries from different manufacturers, types, or models, as well as using old and new batteries together.
- The ambient environment and storage methods can affect the product's lifespan. Please adhere to the operating environment guidelines to ensure the device functions optimally.
- For long-term storage, recharge the battery every six months, ensuring the charge exceeds 80% of its rated capacity.
- Recharge the battery within 18 hours after it has fully discharged or when over-discharge protection mode is triggered.
- The formula for calculating theoretical standby time is: T = C/I (where T represents standby time, C is the battery capacity, and I is the total current of all loads).

2. Transportation

The battery module can only be transported in an upright position.



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- Smoking is prohibited in the vehicle during transportation or in the vicinity during loading and unloading

- The dangerous goods transport vehicles shall meet relevant regulations concerning roadtransportation and shall be equipped with two tested CO2 fire extinguishers.

- If possible, do not remove the transport packaging before arrival at the installation site.Before removing the transport protector, check if the transport packaging is damaged.

- Improper transport of battery modules may cause injury. It could cause injury if it falls or slips. Use only suitable transport and lifting equipment to ensure safe transport.

- Wear safety shoes to avoid the danger of injury. When transporting the battery module,their parts may be crushed due to their heavy weight. Therefore, all persons involved in transportation must wear safety shoes with toe caps. Please observe the safety regulations for transportation at the end customer's site, especially during loading and unloading.

- During transportation and installation of unpacked battery storage cabinets, the risk of injury increases, especially on sharp metal panels. Therefore, all personnel involved in transportation and installation must wear protective gloves.

- Improper vehicle transportation can cause injury. Improper transportation or improper transportation locks may cause the load to slip or overturn,resulting in injury.

- The transportation of Li-Ion batteries is classified under hazard category UN3480, Class 9. For transport via sea, air, or land, the batteries are categorized under Packaging Group PI965 Section I. Use Class 9 Miscellaneous Dangerous Goods and UN Identification labels for transportation of lithium-ion batteries which are assigned Class 9. Please refer to the relevant transportation documentation for details.

3. Introductions

3.1 Symbol Definition

	Danger! Serious physical injury or even death may occur if not follow the relative requirements.		Install the product out of reach of children
	Caution, risk of electric shock.		Do not place nor install near flammable or explosive materials
	In case of electrolyte leakage, keep leaked electrolyte away from eyes or skin.		Disconnect the equipment before carrying out maintenance or repair
	Do not connect the Pack's positive(+) and negative(-)terminal reversely.		EU WEEE mark: Product should not be disposed as household waste.
	Observe precautions for handling electrostatic discharge sensitive devices.		Instruction manual: Read the instruction manual before starting installation and operation.
	Caution, risk of electric shock, energy storage timed discharge		CE mark: The inverter complies with the CE directive.
	Recyclable.	NOTE	Note:The procedures taken for ensuring proper operation.
	Do not use the Pack beyond specified conditions		Earth terminal: The inverter must be reliably grounded.
	Take care! This Pack is heavy enough to cause serious injury.		

3.2 Brief Introduction

FLB48230WG1-H is equipped with a lithium iron phosphate battery designed for household use. Developed based on customer needs and market demands, this advanced battery storage solution provides high-quality, reliable power for various devices. The product features a long lifespan, suitability for high-temperature environments, and a compact design that requires minimal installation space.

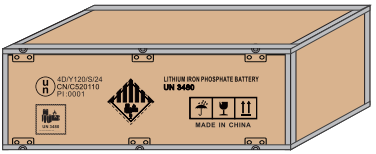
FLB48230WG1-H features a battery management system independently developed by our team. When connected to a grid or photovoltaic system as the power source, the product can store energy by charging the battery. In the event of a power outage from the grid or photovoltaic system, the product independently supplies electricity to household loads. Additionally, multiple units can be connected in parallel to form a high-capacity, multi-module system, meeting long-term energy storage requirements.

3.3 Features

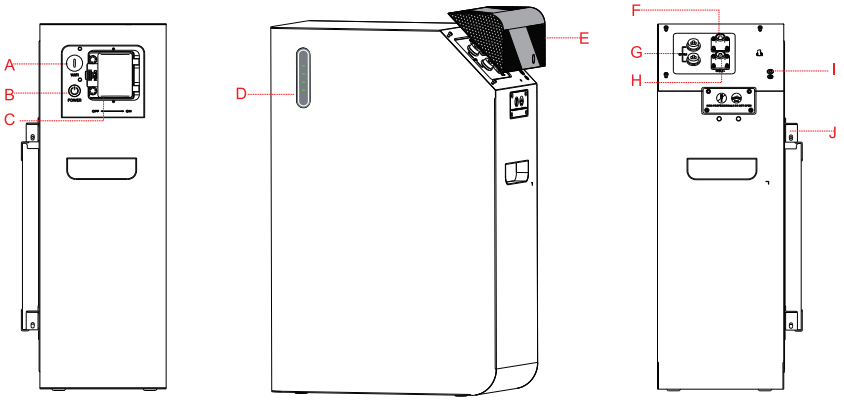
- LiFePO4: Higher safe performance and longer cycle life.
- Multiple Protection: Built-in smart BMS,Breaker and Fuse.
- Flexible Installation: Wall-Mounted or Floor-Mounted.
- Wide Compatibility: Compatible with leading inverter brands.
- High Scalability: Capacity up to 374.4kWh with FLB48230WG1-H.
- Built-in WIFI/Bluetooth: Remote monitoring of battery pack data.
- IP65 Protection Level: Suitable for Outdoor Use.
- Equipped with an aerosol fire extinguishing system.
- When the battery experiences overcurrent causing the fuse to blow, it can be easily replaced externally, providing great convenience.

3.4 Product Overview

3.4.1 External Packaging



3.4.2 Product Appearance Display



Code	Name	Definition
A	WIFI	WIFi signal port. Connects to mobile communication ports such as phones or computers.
B	Power/Running Status	1.Indicate the power on/off function: press once to turn on, press and hold for 3 seconds to turn off; 2. ● A green light indicates normal status, ● while a red light indicates fault status. ● The yellow light flashing slowly at a frequency of 1 second indicates that it is in the heating status.
C	ON/OFF Switch	Circuit Protection
D	LED	Indicate the battery's SOC
E	Decorative Cover	Panel protection for the communication port and power port
F	POS+	The battery DC output positive pole, which is connected to the positive pole of the inverter through the cable.
G	COM	When the system operates in parallel: This CAN/RS485 communication socket connects to the COM interface using a communication cable.
H	NEG-	The battery DC output negative pole, which is connected to the negative pole of the inverter through the cable.
I	Earth Wire	Shell ground connection
J	Wall Mounting Bracket	Wall-mounted fixing bracket