

USER MANUAL



Model

FLH96050SG1

51.2V/100Ah

www.felicitysolar.com

Contents

- 1. Safety Introductions..... 1**
 - 1.1 Warning..... 1
 - 1.1.1 Before Connecting.....1
 - 1.1.2 In Using..... 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..... 14
 - 4.3.3 Series connection is not allowed.....15
- 5. Operation.....16**
 - 5.1 PCS Port Pin Definition..... 16
 - 5.2 Parallel DIP Switch.....17
 - 5.2.1 DIP Code Table..... 17
 - 5.2.2 DIP Switch Setting Example.....17
 - 5.3 Switch On/Off.....18

6. Manage Devices Via Network.....	19
6.1 Configure Network.....	19
6.1.1 Download APP.....	19
6.1.2 Connect to Built-in WIFI wireless network.....	19
6.1.3 Configure the network.....	20
6.2 Create the Plant.....	21
6.2.1 Manage devices via APP.....	21
7. Maintenance and Troubleshooting.....	22
7.1 Storage.....	22
7.2 Maintenance Troubleshooting.....	23
7.2.1 Analysis and Treatment of Common Faults.....	23
7.2.2 Fault Code.....	24
8. Battery recovery.....	24
8.1 Recovery process and steps of cathode materials.....	24
8.2 Recovery of anode materials.....	24
8.3 Recovery of diaphragm.....	24
8.4 List of recycling equipment.....	24
Appendix I.....	25

Revision History

Revision NO.	Revision Date	Revision Reason
1.0	2025.2	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 installation, be sure to cut off the grid power and make sure the battery is in the turned-off mode.
- 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.
- Keep the battery away from water and fire.
- 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.



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.



- 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.	 Societe Generale de Surveillance S.A.
 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.	 EU WEEE mark: Product should not be disposed as household waste.

3.2 Brief Introduction

FLH96050SG1 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.

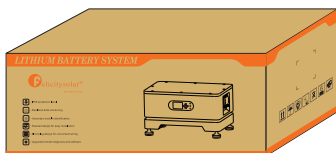
FLH96050SG1 features a battery management system independently developed by our team. When connected to a grid or photovoltaic system as the power source, the product can store energy by charging the battery. In the event of a power outage from the grid or photovoltaic system, the product independently 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

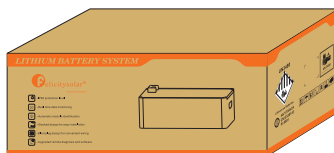
- LiFePO4: Higher safe performance and longer cycle life.
- Multiple Protection: Built-in smart BMS, Breaker and Fuse.
- Flexible Installation: Wall-Mounted or Floor-Mounted.
- Wide Compatibility: Compatible with leading inverter brands.
- High Scalability: Capacity up to 30.72kWh.
- Built-in WIFI/Bluetooth: 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

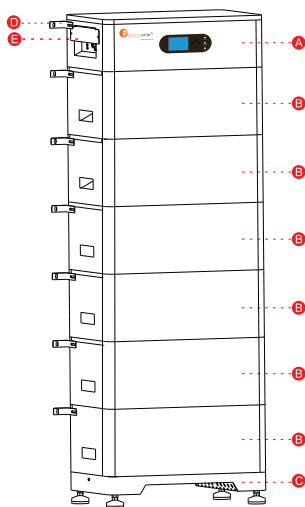


Carton box(FLH96050SCG1)

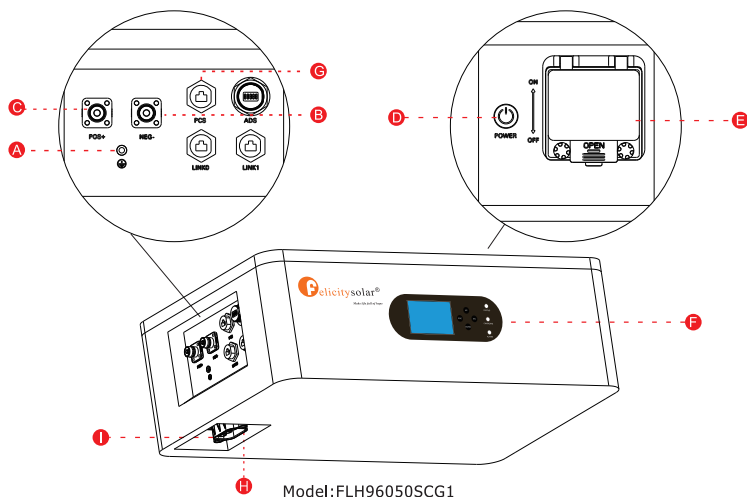


Carton box(FLH96050SMG1)

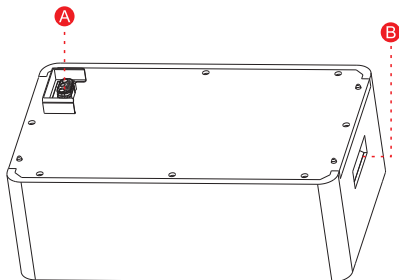
3.4.2 Product Appearance Display



Code	Name
A	Control cabinet
B	Battery box
C	Pedestal
D	Fixed trestle
E	Safety shield

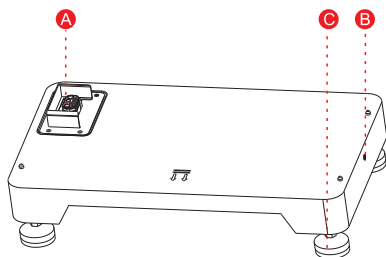


Code	Name	Definition
A	PE	Shell ground connection
B	NEG-	The DC output negative pole of the battery, connected to the inverter's negative pole via a cable.
C	POS+	The DC output positive pole of the battery, connected to the inverter's positive pole via a cable.
D	Power/Running Status	1. Indicate the 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.
E	ON/OFF Switch	Circuit Protection
F	LCD Display	Indicate the battery's SOC
G	PCS	CAN/RS485 port connects to other inverters CAN/RS485 interfaces through communication cable
H	Blind plug terminal	The direct connection terminals of the battery pack include communication cables and power cables.
I	Bleed valve	When the pressure inside the battery pack is too high, the breather valve works to release the pressure to protect the battery pack.



Model:FLH96050SMG1

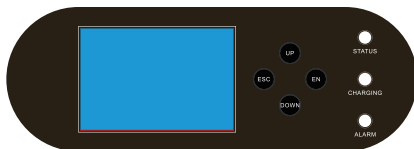
Code	Name	Definition
A	Blind plug terminal	The direct connection terminals of the battery pack include communication cables and power cables.
B	Handle	Handle







Model:Pedestal

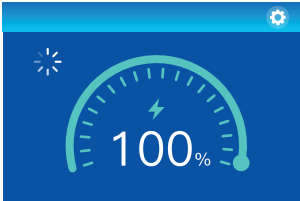


Code	Name	Definition
A	Blind plug terminal	The direct connection terminals of the battery pack include communication cables and power cables.
B	PE	Shell ground connection
C	Foot cup	Foot cup



3.5 LCD Display Icons



Object	Name	Description
A	LCD touch screen	Display the information of the battery.
B	Status LED	Indicates the operating status of the battery, which is always on when running normally.
C	Charging LED	Indicates the charging status of the battery, flashing indicates charging
D	Alarm LED	Indicates the fault status of the battery, which lights up when the fault occurs
	Function Button	Esc:Return from currentinterface or function
		Up:Move cursorto upside orincrease value
		Down:Move cursor to downside or decrease value
		Enter:Confirm the selection.

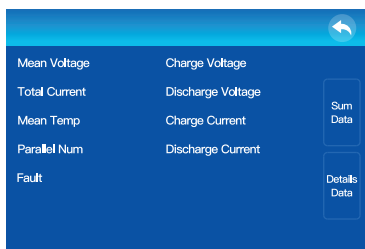
3.5.1 Main Interface

		
Battery Information		
		Indicate SOC.
		It Indicates the battery level, with each grid representing 5%.

	When charging, this icon lights up
	This icon lights up to indicate that the battery is waiting to be connected, and there is no output at this time. After entering normal working mode, this icon disappears.

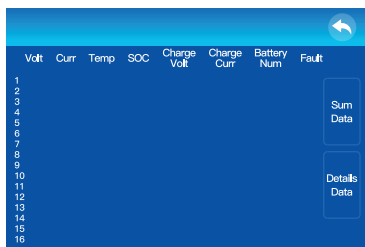
Sum data interface:

This interface displays a summary of battery parallel connection information, including average battery voltage, total battery current, average BMS temperature, number of parallel connections, charging limit voltage, discharging limit voltage, charging limit current, discharging limit current, and fault information. Click "Sum Data" and "Details Data" to switch between summary data or detailed data of parallel batteries.



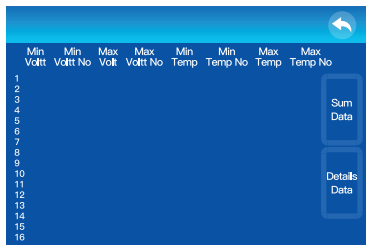
Details data interface:

This interface displays a summary of battery parallel connection information, including average battery voltage, total battery current, average BMS temperature, number of parallel connections, charging limit voltage, discharging limit voltage, charging limit current, discharging limit current, and fault information. click "Sum Data" and "Details Data" to switch between summary data or detailed data of parallel batteries



Details data interface:

This interface displays detailed information about parallel batteries, including minimum cell voltage minimum cell voltage number, maximum cell voltage, maximum cell voltage number, minimum cell temperature, minimum cell temperature number, maximum cell temperature, and maximum cell temperature number 1 to 16 represent the addresses of parallel batteries.



	Min Volt	Min Volt No	Max Volt	Max Volt No	Min Temp	Min Temp No	Max Temp	Max Temp No
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

3.6 Battery Management System(BMS)

Voltage Protection

Low Voltage Protection in Charging:

When any battery cell voltage or total voltage is lower than the rated protection value during discharging, the over-discharging protection is activated. Then battery system stops supplying power to the outside. When the voltage of each cell back to rated return range, the protection is over.

Over Voltage Protection in Charging:

During charging stage, the system will stop charging when the total voltage of the battery pack is higher than rated value or the voltage of any single cell reaches the protection value. When total voltage or all cell back to rated range, the protection is over.

Current Protection

Over Current Protection in Charging:

When the charging current reaches the trigger value and lasts for 15 seconds, charging overcurrent protection is activated, entering fault mode. The battery disables both charging input and discharging output, and displays fault code C05 on the screen. The fault is automatically cleared after 1 minute. After 10 occurrences, the fault can no longer clear automatically, requiring a manual battery restart.

Over Current Protection in Discharging:

When the discharging current reaches the trigger value and lasts for 15 seconds, discharging overcurrent protection is activated, entering fault mode. The battery disables both charging input and discharging output, and displays fault code C06 on the screen. The fault is automatically cleared after 1 minute. After 10 occurrences, the fault can no longer clear automatically, requiring a manual battery restart.

3.7 System Connection Diagram

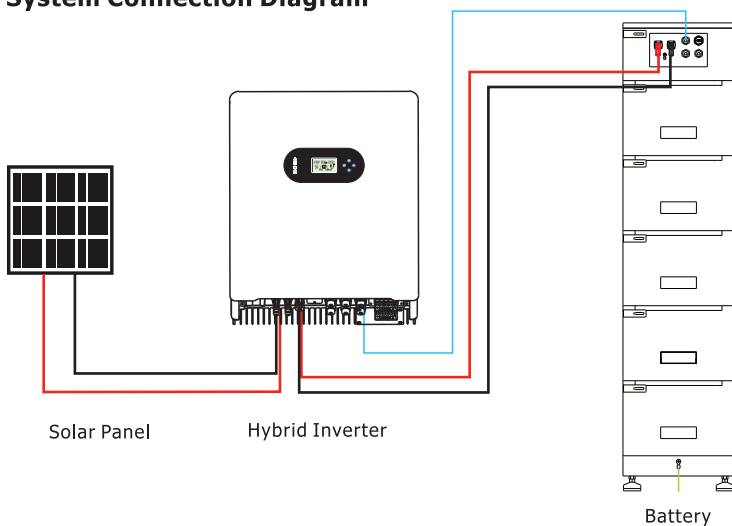


Figure 3-1 Single Battery System Connection Diagram

When paralleling multiple battery packs, please use a combiner box or a copper busbar.

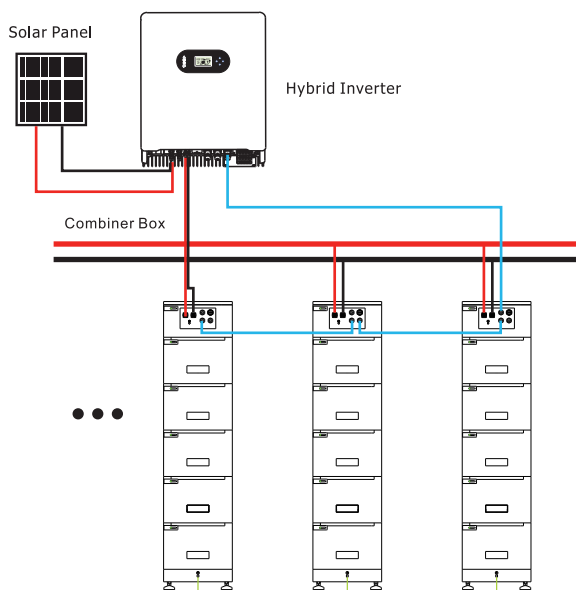


Figure 3-2 Multiple Battery Parallel System Connection Diagram

4. Installation and Configuration

4.1 Preparations for Installation

4.1.1 Safety Requirement

This system must only be installed by personnel trained in power supply systems and possessing adequate knowledge of such systems. The safety guidelines outlined below, along with applicable local safety standards, must be strictly adhered to during installation.

- All circuits interfacing with this power system and carrying external voltages below 48V must comply with SELV requirements as specified in the IEC60950 standard.
- If working within the power system cabinet, ensure the system is completely powered down, and all battery devices are switched off.
- The distribution cables should be arranged systematically and equipped with protective measures to prevent accidental contact while operating power equipment.

4.1.2 Installation Environment

- Working temperature: $-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
- Charging temperature range: $0^{\circ}\text{C} \sim +55^{\circ}\text{C}$
- Discharging temperature range: $-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
- Storage temperature: $0^{\circ}\text{C} \sim +35^{\circ}\text{C}$
- Relative humidity: 5% ~ 95%
- Elevation: $\leq 2000\text{m}$

Operating environment: Suitable for indoor or outdoor installation at locations shielded from direct sunlight, wind, conductive dust, and corrosive gases.

Ensure the following conditions are met:

- The installation site should be distant from the sea to prevent exposure to saltwater and high humidity.
- The ground at the installation location must be flat and level.
- The site should be free of flammable or explosive materials.
- Optimal ambient temperature: 20°C to 30°C .
- Avoid areas with excessive dust or clutter.

4.1.3 Tools



Screw Driver



Crimping Modular



Safety Shoes



Multimeter



Safety Gloves



Safety Goggles



Plier




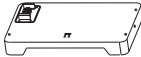







Ribbon





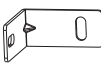


Electric drill

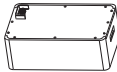






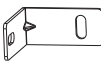
4.2 Unpacking Inspection

- Upon arrival at the installation site, loading and unloading should strictly follow the established rules and procedures to prevent exposure to sunlight and rain.
- Before unpacking, verify the total number of packages against the shipping list attached to each package, and inspect the outer cases for any signs of damage. After unpacking, carefully check for loose or damaged wiring and contacts, cracks, deformations, leaks, or any other form of damage. If any damage is detected, the battery must be replaced immediately. Do not attempt to charge or use a damaged battery, and avoid contact with any liquid from a ruptured battery.
- During unpacking, handle all components with care to protect the surface coating from damage.

FLH96050SCG1			
No.	Description	Quantity	Picture
1	Control cabinet	1	
2	Pedestal	1	
3	User manual	1	
4	Quick installation guide	1	
5	Warranty card	1	
6	Power Cable 1: 2 meters, 6mm ² , allows for charging and discharging up to 30A, used to connect to external PCS- (black)	1	
7	Power Cable 2: 2 meters, 6mm ² , allows for charging and discharging up to 30A, used to connect to external PCS+ (red)	1	
8	Communication line 1: The communication between the battery pack and the PC	1	
9	Communication Line 2: Communication between the battery pack and the Felicity inverter	1	

11	Screw: Used for installing control cabinet (M5×12*3 PCS)	3	
12	Expansion Plastic Screw: Used together for product fixation	2	
13	BOT Foot Cup: Used for supporting the product	4	
14	Signal Terminal: Used for creating custom communication cables	2	
15	Fixed trestle: Used for fixing products	1	

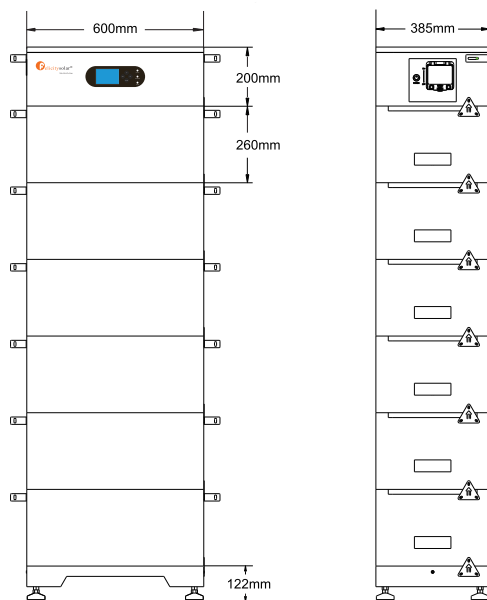
FLH96050SMG1

No.	Description	Quantity	Picture
1	Control cabinet	1	
2	User manual	1	
3	Quick installation guide	1	
4	Warranty card	1	
5	Expansion Plastic Screw: used together for product fixation.	2	
6	Screw: used for installing battery pack modules. (M5×12*4 PCS).	4	
7	Fix the bracket	1	
8	Fixed trestle: Used for fixing products	2	

4.3 Installation Procedure

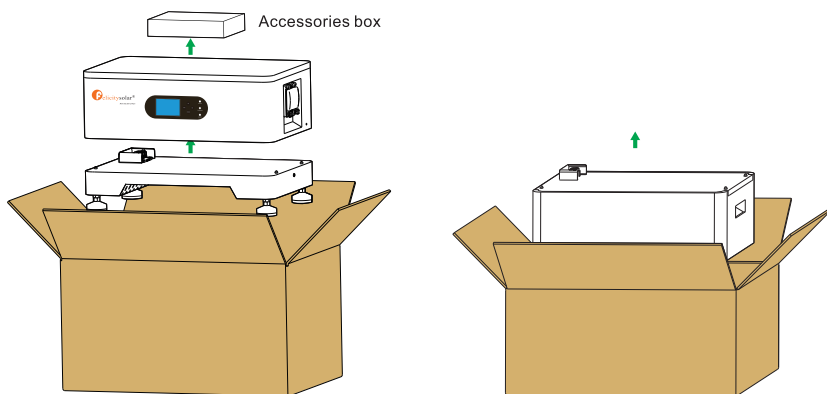
4.3.1 Mounting the Battery

(a) Product size information



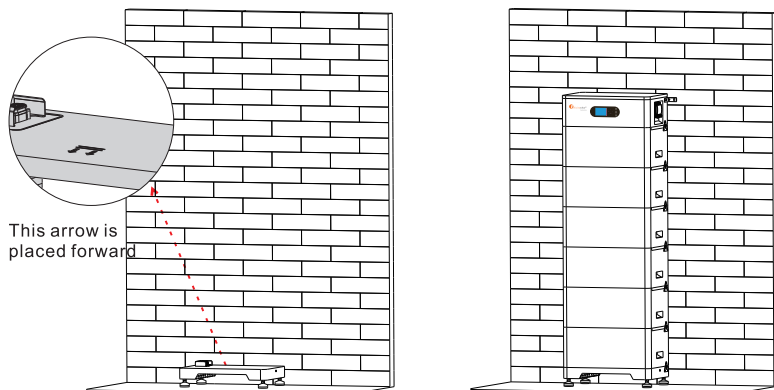
(b) Wall-mounted method

Step 1: Remove the battery, base and control box from the carton.



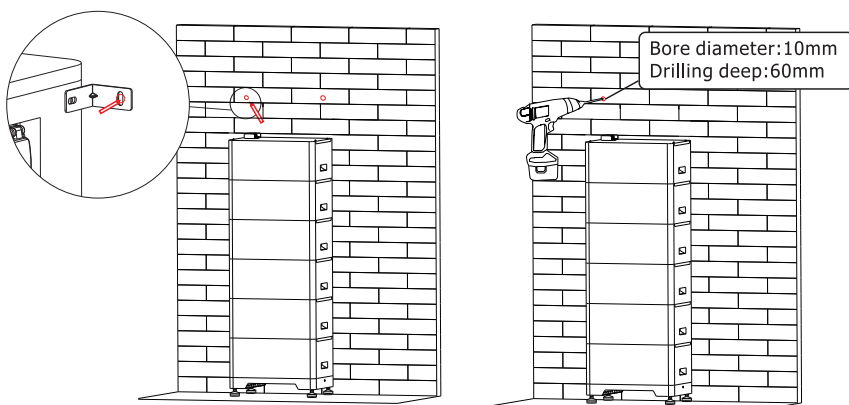
Step 2: Place the base against the wall.

Step 3: Install 1~6 battery boxes on the base, and then place the control box above the installed battery to ensure it is firmly placed.

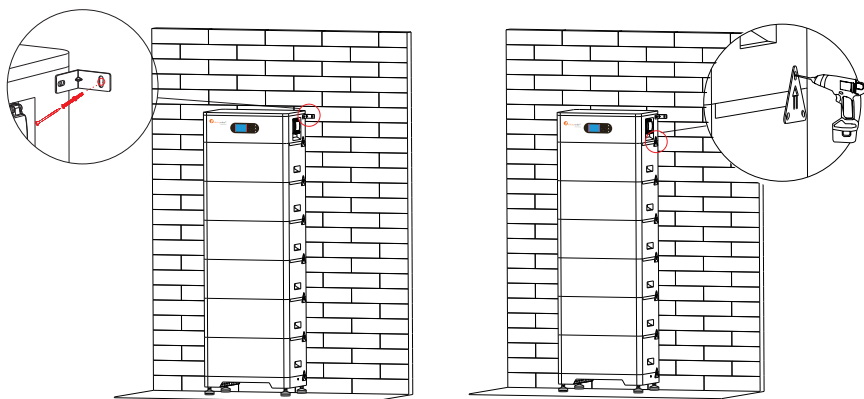


Step 4: install the anti-tipping bracket of the control box, mark the punching position with a marker, and remove the anti-tipping bracket and the control box.

Step 5: Use the impact drill to drill holes. (Aperture: 10mm, depth: 60mm).



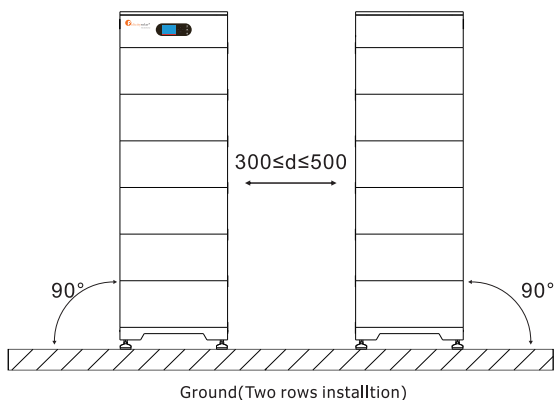
Step 6: Use a hammer to knock the plastic plug into the hole, fit it to the wall, then reinstall the control box and the anti-tipping bracket, and tighten the screws on the anti-tipping bracket. The torque requirement is $10\text{N} \cdot \text{m}$ to ensure that the control box is firmly installed.

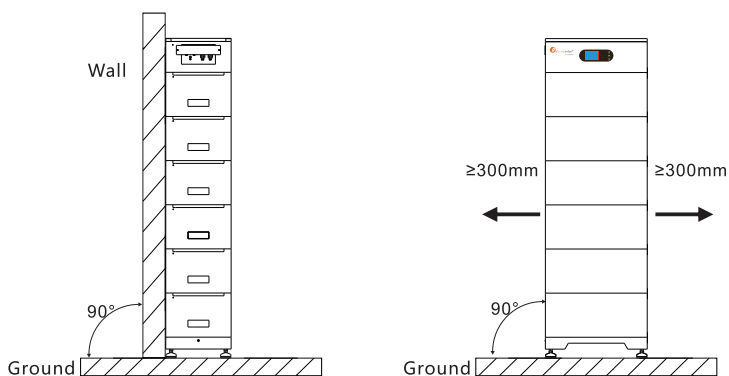


Note:

1. Check that the ground is flat and free of tilt before installation.
2. Make sure that the base is vertical and close to the ground.
3. Make sure that the base is against the wall and the arrow direction on the base faces outward when placing.
4. When placing the upper battery, make sure that the upper and lower hole positions are aligned.
5. Be careful of the battery falling.
6. Avoid installing the anti-tipping bracket on the same side.
7. There is no gap between battery packs and battery packs during stack installation. If there is a gap, place the battery pack with the gap on the lower layer.

(b) Floor-Mounted method





4.3.2 Batteries in parallel

Link1, Link0 Port Definition

Picture	Pin	Color	Definition
<p>P1.....P8</p>	1	ORG-WH	NC
	2	ORG	NC
	3	GN-WH	NC
	4	BU	NC
	5	BU-WH	NC
	6	GN	NC
	7	BN-WH	CANH
	8	BN	CANL

The LUX-X-96050HG01 support to be connected in parallel for expansion. If you need one more battery bank to work in parallel mode, connect the battery as shown in Figure 4-3-1.

* It is recommended to use battery pack combiner box(BTCB0606/BTCB0303) or confluence copper bar confluence.

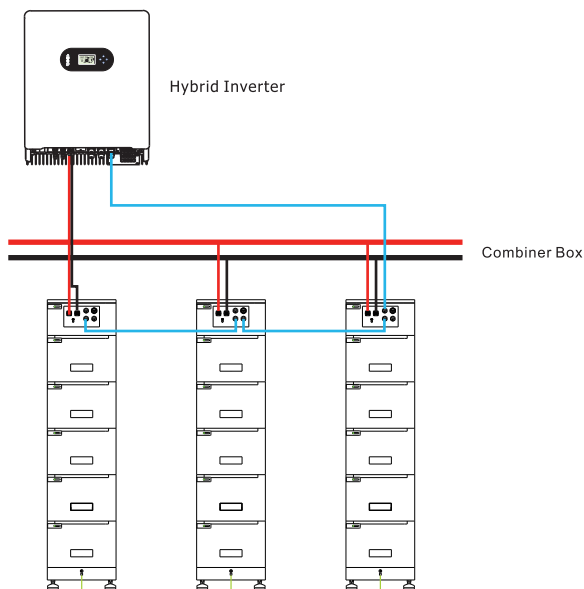


Figure 4-3-1 Multiple Battery Parallel System Connection Diagram

4.3.3 Series connection is not allowed


1)The batteries can be connected in parallel. Series connection is not allowed. Use in upright position only.

2)The batteries are not allowed to be connected with PWM controller for charging. Special Attention: Due to the built-in protection board of the lithium battery pack with over-discharge protection function, it is strongly recommended to stop using the load when the battery pack is over-discharged. The battery pack cannot be repeatedly activated for discharge. Or the battery may be failed to be activated by the AC or PV activation cable (It requires a special charging activation method), so cannot be charged. Therefore, when the battery pack is low power, please charge the battery as soon as possible when main power or solar energy is available.

5. Operation


5.1 PCS Port Pin Definition

BATTERY-FelicityESS

Picture	Pin	Color	Definition
	1	ORG-WH	NC
	2	ORG	NC
	3	GN-WH	NC
	4	BU	CANH
	5	BU-WH	CANL
	6	GN	GND
	7	BN-WH	485A
	8	BN	485B



INVERTER

Pin	Color	Definition	Picture
1	ORG-WH	/	
2	ORG	/	
3	GN-WH	/	
4	BU	CANH	
5	BU-WH	CANL	
6	GN	/	
7	BN-WH	/	
8	BN	/	

5.2 Switch On/Off

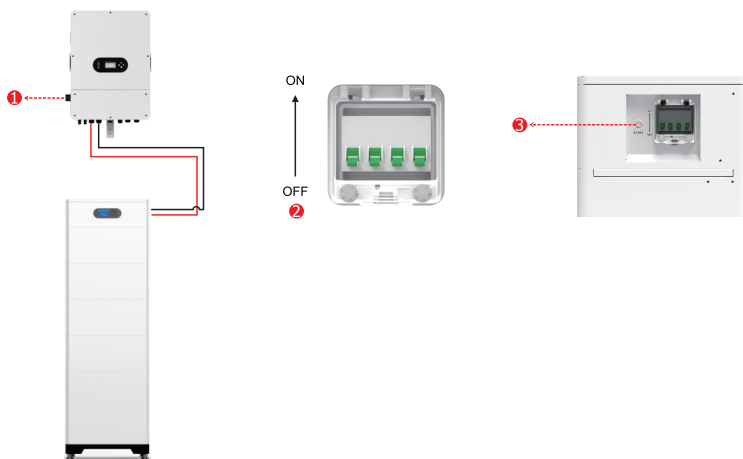
Power on steps:

Step 1: Turn on the inverter **1**;

Step 2: Turn on the battery breaker **2** ("OFF" to the "ON");

Step 3: Press the battery switch button **3**.

If the batteries are connected in parallel, turning on any one of them will turn on all the others.



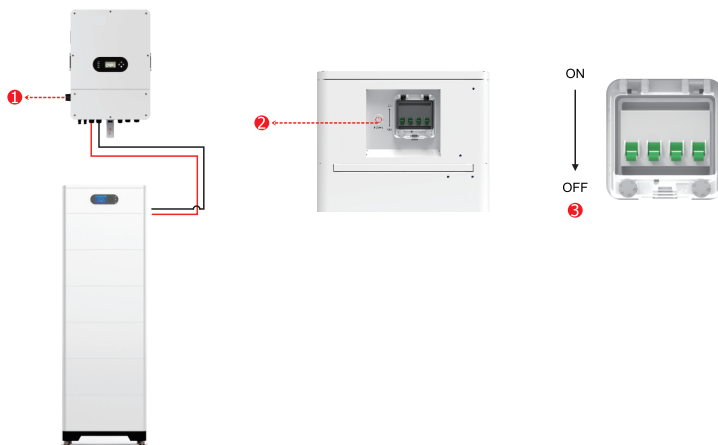
Power down steps:

Step 1: Turn off the inverter^①;

Step 2: Press and hold the battery switch button for 3 seconds^②;

Step 3: Disconnect the breaker of the battery^③ ("ON" to "OFF").

If the batteries are connected in parallel, turning off any one of them will turn off all the others.



6. Maintenance and Troubleshooting

6.1 Storage

- Do not expose battery to open flame.
- Do not place the product under direct sunlight.
- Do not place the product near flammable materials. It may lead to fire or explosion in case of accident.
- Store in a cool and dry place with ample ventilation.
- Store the product on a flat surface.
- Store the product out of reach of children and animals.
- Do not damage the unit by dropping, deforming, impacting, cutting or penetrating with a sharp object.
- It may cause leakage of electrolyte or fire.
- Do not touch any liquid spilled from the product. There is a risk of electric shock or damage to skin.
- Always handle the battery wearing the insulated gloves.
- Do not step on the product or place any foreign objects on it. This can result in damage
- Do not charge or discharge damaged battery.

6.2 Maintenance Troubleshooting

6.2.1 Analysis and Treatment of Common Faults

Item	Fault phenomenon	Reason analysis	Solution
1	Unable to communicate with the inverter	The wrong communication cable was used, or the battery DIP switch settings are incorrect.	Before connecting the battery to the inverter, set the battery DIP switches correctly according to the DIP switch table. After setting the DIP switches, restart the battery to activate the DIP, then use the correct communication cable to connect the battery and the inverter.
2	Battery does not fully charge	The charging voltage set on the inverter is too low	Set the charging voltage on the inverter according to the recommended value in the battery manual
3	Inaccurate SOC display	The battery's SOC has not been calibrated	The SOC will automatically calibrate after one full charge cycle. First, discharge the battery to 0%, then charge it to 100%.
4	High current charging & discharging causes output cutoff	The charging & discharging current set on the inverter is too high	Set the charging & discharging current on the inverter according to the recommended values in the battery manual
5	Battery output is interrupted due to high current during charging and discharging	The charging and discharging current settings on the inverter are too high	Set the charging and discharging current on the inverter according to the recommendations in the battery manual
6	When multiple batteries are connected in parallel, battery data on the inverter is missing or incorrect.	The parallel connection of the batteries is not set up correctly	1. Check the communication cables between the batteries 2. Check whether the battery DIP switches are set in the correct sequence
7	The battery indicates it is charging, but the SOC does not change.	The ambient temperature is too low, preventing the battery from charging.	Charge the battery in an indoor environment that meets the operating temperature range specified in the manual

7. Battery recovery

Aluminum, copper, lithium, iron, and other metal materials are extracted from discarded LiFePO₄ batteries using an advanced hydrometallurgical process, achieving a comprehensive recovery efficiency of up to 80%. The detailed process steps are outlined as follows.

7.1 Recovery process and steps of cathode materials

The aluminum foil used as collector is an amphoteric metal. Initially, it is dissolved in a NaOH alkaline solution, allowing aluminum to enter the solution as NaAlO₂. After filtration, the filtrate is neutralized with a sulfuric acid solution, resulting in the precipitation of Al(OH)₃. When the pH exceeds 9.0, the majority of the aluminum precipitates, and the resulting Al(OH)₃ can achieve chemical-grade purity upon analysis.

The filter residue is treated with sulfuric acid and hydrogen peroxide, allowing lithium iron phosphate to dissolve into the solution as Fe₂(SO₄)₃ and Li₂SO₄, while separating it from carbon black and the carbon coating on lithium iron phosphate. After filtration, the pH of the filtrate is adjusted using NaOH and ammonia solution. Iron is first precipitated as Fe(OH)₃, followed by the precipitation of the remaining solution using a saturated Na₂CO₃ solution at 90°C.

7.2 Recovery of anode materials

The recovery process for anode materials is relatively straightforward. After separating the anode plates, the copper purity exceeds 99%, making it suitable for further refining into electrolytic copper.

7.3 Recovery of diaphragm

The diaphragm material is primarily non-hazardous and holds no recycling value.

7.4 List of recycling equipment

Automatic dismantling machine, pulverizes, wet gold pool, etc.

Appendix I

Model		FLH96050SG1					
Battery Type		LiFePO4					
Module Energy		5.12kWh					
Module Nominal Voltage		102.4V					
Module Capacity		50Ah					
Number of Battery Modules		1	2	3	4	5	6
System Energy		5.12kWh	10.24kWh	15.36kWh	20.48kWh	25.6kWh	30.72kWh
System Nominal Voltage		102.4V	204.8V	307.2V	409.6V	512V	614.4V
System Operating Voltage		96-115.2V	192-230.4V	288-345.6V	384-460.8V	480-576V	576-691.2V
Recommend Charge/Discharge current		25A	25A	25A	25A	25A	25A
Max. continuous charge/discharge current[1]		50A	50A	50A	50A	50A	50A
Peak Charge/Discharge current(15S)		60A	60A	60A	60A	60A	60A
Depth of discharge(DoD)		≥95%					
Display type		LED+LCD(Touch)					
IP Rating of Enclosure		IP65					
Operating Temperature Range		Charge:0~+55°C/Discharge:-20°C~+55°C					
Storage Temperature Range		0°C~+35°C					
Humidity		5%~95%					
Altitude		≤2000m					
Cycle Life[2]		> 6000 Cycles					
Installation		Stacking-Mounting/Floor-Mounting					
Protection		Built-in smart BMS, Breaker					
Communication Port		RS485/CAN					
Warranty Period[3]		10 Year					
Control Module FLH96050SCG1	Net Weight	12.5 kg					
	Gross Weight(with base)	24.5 kg					
	Product Dimension	600x385x200 mm					
	Package Dimension(with base)	712x497x352 mm					
Battery Module FLH96050SMG1	Battery Designation[4]	IFpP/41/150/102/[(1P32S)NS]M/-10+50/90					
	Net Weight	57.5kg					
	Gross Weight	62kg					
	Product Dimension	600x385x260 mm					
	Package Dimension(with base)	712x497x378 mm					
[1] Max. continuous charge/discharge current is affected by temperature and SOC							
[2]Test conditions: 0.2C Charging/Discharging @25°C, 80% DOD							
[3] Conditions apply, refer to Felicitysolar Warranty policy.							
[4]"N"means the number of battery packs connected parallel and should not exceed 6.(N≤6)							

