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› GLCE Energy All-in-One 15.36kWh LiFePO4 Battery System User Manual

GLCE ENERGY All-in-One 15,36kWh

GLCE Energy All-in-One 15.36kWh LiFePO4 Battery System User Manual

Model: All-in-One 15,36kWh

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your GLCE Energy All-in-One 15.36kWh LiFePO4 Battery System. This powerful and durable lithium iron phosphate battery module is designed for comprehensive home energy storage, featuring an integrated inverter and Smart BMS. Please read this manual thoroughly before installation and use to ensure optimal performance and safety.



Figure 1.1: GLCE Energy All-in-One 15.36kWh LiFePO4 Battery System. This image shows the complete battery unit, a tall, white rectangular system with the GLCE Energy logo and a small display screen at the top, and wheels at the base for portability.

2. SAFETY INSTRUCTIONS

Always adhere to the following safety guidelines to prevent injury or damage to the system:

- Installation must be performed by qualified personnel in accordance with local electrical codes and regulations.
- Do not attempt to open, disassemble, or modify the battery system. There are no user-serviceable parts inside.
- Ensure proper ventilation around the unit to prevent overheating.
- Keep the system away from water, moisture, and flammable materials.
- Do not expose the battery to extreme temperatures outside its specified operating range.
- In case of fire, use a Class D fire extinguisher (for metal fires) or a CO2 extinguisher. Do not use water.
- Disconnect all power sources before performing any maintenance or cleaning.
- Handle the unit with care due to its weight (225 kg). Use appropriate lifting equipment if necessary.

3. PRODUCT FEATURES

The GLCE Energy All-in-One LiFePO4 Battery System offers advanced features for reliable home energy storage:

- **Whole-Home Backup Power:** Each module consists of 16 series-connected 100Ah cells, forming a 51.2V battery module. The system integrates a Smart BMS and can be expanded up to 20.48kWh for comprehensive home energy backup.
- **Advanced Functionality:** Compared to other batteries, it offers superior charge and discharge performance, precise state control, extended lifespan, and minimal self-discharge. It supports various communication protocols including CAN, RS485, and RS232.
- **Versatile Operating Modes:**
 - **Charging Modes:** Photovoltaic Priority, Grid Priority, Hybrid Charge, and Solar Only Charge.
 - **Output Modes:** Photovoltaic Priority, Grid Power Priority, Inverter Priority, and Mixed Function Mode. The factory default setting is Grid Power Priority.
- **Easy Installation & Long Lifespan:** Designed for plug-and-play installation, saving time and effort. With a lifespan exceeding 15,000 cycles, this LiFePO4 battery ensures exceptional durability and reliability.
- **Wide Temperature Tolerance:** Operates effectively across a broad temperature range: 0°C to 55°C during charging and -10°C to 55°C during discharging.
- **Compact and Safe Design:** All necessary components are integrated into a single unit for space efficiency. Incorporates safety mechanisms to prevent overheating, overcharging, and short circuits.

All-in-One LiFePO4 Lithium Batterie with Inverter

Each module consists of 16pcs cells connected in series into a 51.2V voltage battery module

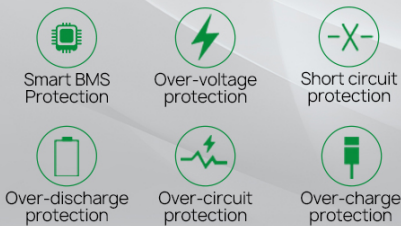
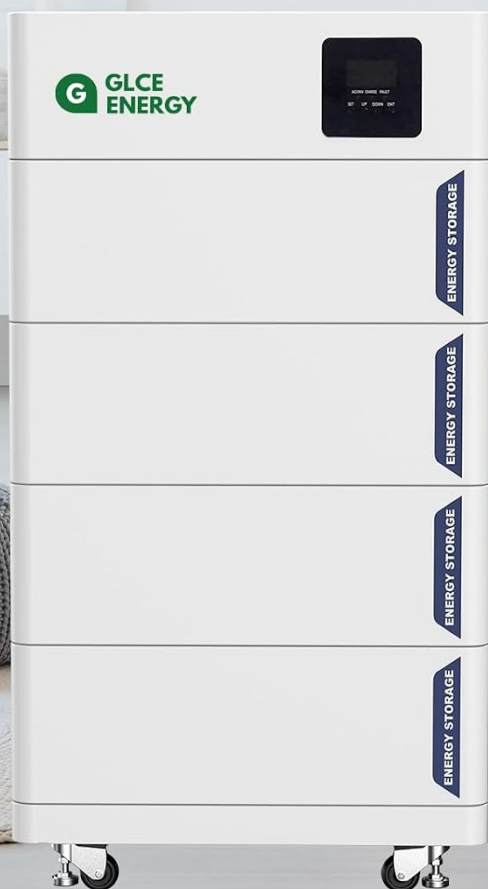


Figure 3.1: All-in-One LiFePO4 Lithium Battery with Inverter. This image highlights the integrated inverter and various protection features such as Smart BMS Protection, Over-voltage protection, Short circuit protection, Over-discharge protection, Over-circuit protection, and Over-charge protection.

GLCE Energy All In One Lifepo4 Battery



COMPACT DESIGN

All components necessary for battery operation are integrated into a single unit, making it space-efficient.

CONVENIENCE

You don't need to purchase separate components or assemble anything, simplifying the process of using the battery.

EFFICIENCY

Optimized design for energy storage and delivery, maximizing the battery's performance.

SAFETY FEATURES

Incorporates safety mechanisms to prevent overheating, overcharging, and short circuits, ensuring user safety.

Figure 3.2: Key Features of GLCE Energy All-in-One LiFePO4 Battery. This image lists the benefits: Compact Design (all

components integrated), Convenience (no separate purchases), Efficiency (optimized for energy storage), and Safety Features (mechanisms against overheating, overcharging, short circuits).

4. SETUP

The GLCE Energy system is designed for plug-and-play installation. Follow these general steps for setup:

1. **Unpacking and Inspection:** Carefully unpack the unit and inspect for any shipping damage. Report any damage to your supplier immediately.
2. **Placement:** Choose a cool, dry, well-ventilated area for installation, away from direct sunlight and heat sources. Ensure the surface can support the unit's weight (225 kg).
3. **Electrical Connections:** Connect the battery system to your home's electrical panel and solar array (if applicable) according to the wiring diagram provided in the detailed product manual (not included here). Ensure all connections are secure and correctly polarized.
4. **Communication Connections:** Connect necessary communication cables (CAN, RS485, RS232) to compatible inverters or monitoring systems as required.
5. **Initial Power-Up:** Once all connections are verified, switch on the battery system using the ON/OFF switch. Observe the LED indicators for proper operation.



Figure 4.1: Internal Connections and Ports. This diagram illustrates the various connection points on the battery system, including Dry Contact, Address settings, LED indicators (RUN/ALARM), Battery Positive and Negative terminals, Air Circuit-breaker, RS485/RS232/CAN ports, and the Battery ON/OFF switch.

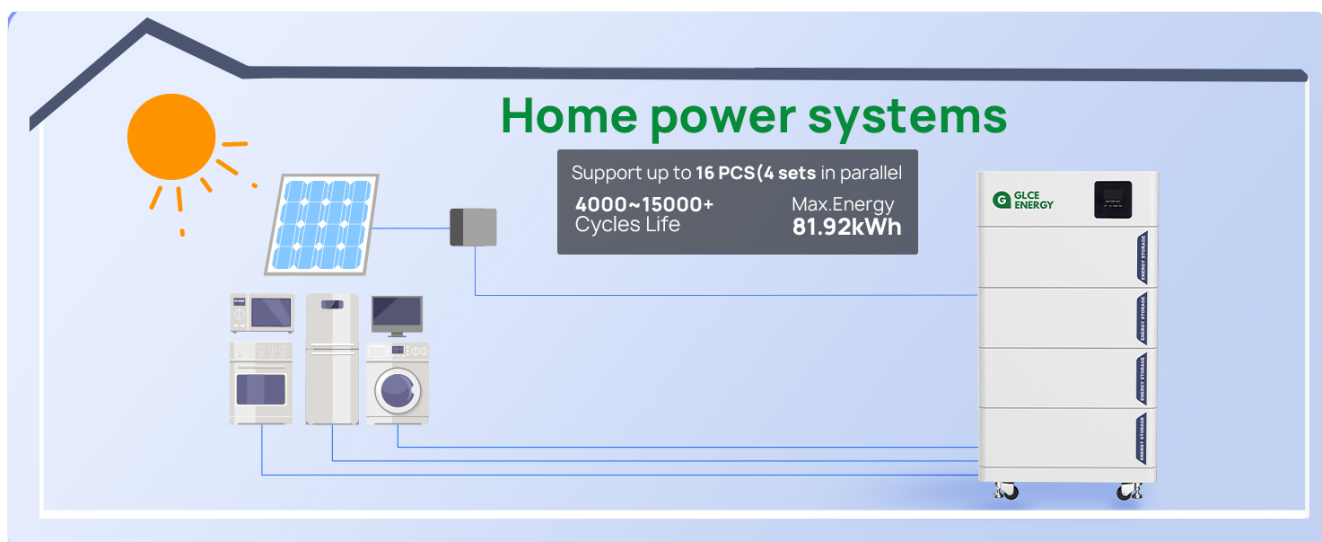


Figure 4.2: Home Power System Integration. This diagram shows how the GLCE Energy battery system integrates with solar panels

and various household appliances, supporting up to 16 units (4 sets in parallel) and offering a cycle life of 4000-15000+ cycles with a maximum energy capacity of 81.92kWh.

5. OPERATING INSTRUCTIONS

The system's operation is managed via the integrated display and buttons.

1. **Display Interface:** The top panel features a display screen that shows real-time operational data such as input/output voltage, current, battery status, and load.
2. **Navigation Buttons:** Use the "SET", "UP", "DOWN", and "ENT" buttons located below the display to navigate menus and adjust settings.
3. **Mode Selection:** Refer to the detailed product manual for specific instructions on how to select and configure the various charging and output modes (Photovoltaic Priority, Grid Priority, Hybrid Charge, Solar Only Charge, Inverter Priority, Mixed Function Mode).
4. **Monitoring:** Regularly monitor the display for system status and any alerts.



Figure 5.1: Inverter Screen Display. This image shows the digital display on the battery system, indicating input/output values (e.g., 52.7V, 50Hz, 230V) and load percentage, with a note that settings can be adjusted using the buttons on the screen.

6. MAINTENANCE

Proper maintenance ensures the longevity and efficiency of your battery system:

- **Regular Cleaning:** Keep the exterior of the unit clean and free of dust. Use a soft, dry cloth. Do not use liquid cleaners.
- **Ventilation Check:** Ensure that the ventilation openings are not blocked. Clear any obstructions to maintain proper airflow.
- **Connection Inspection:** Periodically check all electrical and communication connections for tightness and signs of corrosion.
- **Software Updates:** If applicable, ensure the system's firmware is up-to-date. Consult the manufacturer's website or support for update procedures.
- **Environmental Conditions:** Monitor the ambient temperature to ensure it remains within the specified operating range.

7. TROUBLESHOOTING

If you encounter issues with your GLCE Energy battery system, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
System not powering on	Battery ON/OFF switch is off; Loose power connections; Circuit breaker tripped.	Ensure ON/OFF switch is in 'ON' position; Check and secure all power cables; Reset the air circuit-breaker.
No power output	Overload; Inverter fault; Incorrect output mode selected.	Reduce connected load; Check display for error codes; Verify output mode settings.
Charging issues	Input source problem (solar/grid); Incorrect charging mode; High/low temperature.	Verify input power supply; Adjust charging mode; Ensure ambient temperature is within operating range.
Alarm LED active	System error or warning (e.g., over-voltage, over-temperature).	Check the display for specific error codes and consult the detailed manual for resolution. If persistent, contact support.

For issues not covered here or if problems persist, please contact GLCE Energy customer support.

8. SPECIFICATIONS

Attribute	Value
Brand	GLCE ENERGY
Model Name	All-in-One 15,36kWh
Battery Capacity	300 Ah
Voltage	51.2 Volts
Amperage	300 A
Dimensions (L x W x H)	60 x 44 x 90 cm
Weight	225 kg
Reusability	Rechargeable
IP Classification	IP20
Operating Temperature (Charge)	0 °C to 55 °C
-10 °C to 55 °C	
Cycle Life	>15,000 cycles

Product Size



Figure 8.1: Product Size Variations. This image illustrates different size and weight configurations of GLCE Energy battery systems, including the 60x44x90cm 225KG model, and other capacities like 5KWH, 10KWH, 15KWH, and 20KWH.

9. WARRANTY AND SUPPORT

GLCE Energy is committed to providing high-quality products and customer satisfaction.

- **Warranty Information:** Specific warranty terms and conditions are typically provided with your purchase documentation. Please refer to these documents for details regarding coverage and duration.
- **Customer Support:** If you have any questions, require technical assistance, or need to report an issue, please contact GLCE Energy customer support. You can send a message via the Amazon platform, and responses are typically provided within 24 hours.
- **Spare Parts:** Information regarding spare parts availability is not provided in the general product specifications. Please contact customer support for inquiries about replacement parts.

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This manual is subject to change without notice.