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› E-LekTech 48V 100Ah LiFePO4 Lithium Battery Instruction Manual (Model: SH-48-100-BT)

E-LekTech SH-48-100-BT

E-LekTech 48V 100Ah LiFePO4 Lithium Battery Instruction Manual

Model: SH-48-100-BT

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your E-LekTech 48V 100Ah LiFePO4 Lithium Battery. This high-performance battery is designed for various applications including off-grid solar systems, RVs, home backup power, and more, offering a long cycle life and robust power output. Please read this manual thoroughly before installation and use.



Figure 1: E-LekTech 48V 100Ah LiFePO4 Lithium Battery with its smart display and app monitoring capabilities.

2. WHAT'S IN THE BOX

Upon unpacking, please verify that all components are present and undamaged:

- 1x E-LekTech 48V 100Ah LiFePO4 Battery
- Power Cable (for inverter connection)
- User Manual
- Screws (M4)
- Signal Cable (for parallel connection) and PE Cable
- Signal Cable (for inverter connection)
- Rack Fixed Ears
- Stacking Bracket
- Power Cable (for parallel connection)

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Video 1: Unboxing and component overview for a 51.2V 100Ah Server Rack Battery, demonstrating included accessories.

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Video 2: Detailed unboxing of a 51.2V 100Ah Server Rack LiFePO4 Battery, highlighting all included cables and mounting hardware.

3. FEATURES

- **Touch Screen & APP Monitoring:** Equipped with a smart touchable display and a dedicated mobile application for remote battery monitoring.
- **Advanced Cells & 200A BMS:** Utilizes Grade A cells and an intelligent 200A Battery Management System (BMS) for comprehensive protection against overcharge, over-discharge, overcurrent, and over-temperature. Maximum continuous discharge current is 200A, with a maximum load power of 10.24kW.
- **High Capacity and Extended Lifespan:** Delivers 5.12kWh of energy. Designed for over 10,000 deep cycles, providing a lifespan of up to 10 years.
- **Easy Capacity Expansion:** Supports parallel connection of up to 6 batteries for increased capacity, suitable for larger power requirements.

200A BMS SUPERB GRADE A CELLS 10000+ Cycles Life



BMS 7 PROTECTION MEASURES



Over Current Protection



Over-discharge Protection



Over Voltage Protection



Short Current Protection



Overcharge Protection



Overheating Protection



Low Temp Cutoff Protection

Figure 2: Internal components highlighting Grade A cells and the 200A BMS, which provides seven layers of protection.

4. SETUP AND INSTALLATION

Proper installation is crucial for safety and performance. It is recommended that installation be performed by a qualified

professional.

4.1 Safety Precautions

- Ensure the battery is turned off before making any connections.
- Wear appropriate personal protective equipment (PPE), including insulated gloves and eye protection.
- Do not short-circuit the battery terminals.
- Ensure proper ventilation if installing in an enclosed space.

4.2 Physical Installation

The battery is designed for server rack mounting. Use the provided rack fixed ears and stacking brackets as needed. Ensure the installation location is stable, dry, and within the recommended operating temperature range.



Figure 3: Detailed dimensions and terminal specifications for installation planning.

4.3 Electrical Connections

- Connect the positive (+) and negative (-) terminals of the battery to your inverter or charge controller using the provided power cables. Ensure connections are secure and properly insulated.
- For parallel connections, ensure all batteries are fully charged individually to a balanced voltage state before

connecting them in parallel. Use the provided signal cables for communication between parallel units and to the inverter.

- Connect the PE (Protective Earth) cable for grounding.

5. OPERATING INSTRUCTIONS

5.1 Initial Power-Up

- After all connections are securely made, turn on the battery using the ON/OFF switch.
- The smart display will illuminate, showing real-time battery information.

5.2 Smart Display Operation

The integrated touch screen display provides critical operational data:

- **Real-time Display:** View battery voltage, current, and temperature.
- **Battery Switch:** Control charge and discharge functions directly from the display.
- **Cell Voltage:** Monitor individual cell voltages for optimal performance and balancing.



Figure 4: The smart LCD display provides real-time battery status, and the mobile app allows remote monitoring.

5.3 APP Monitoring

Download the dedicated E-LekTech app to monitor your battery remotely. The app provides a comprehensive overview of battery status, including charge level, voltage, current, temperature, and cycle count.

6. MAINTENANCE

To ensure the longevity and optimal performance of your E-LekTech LiFePO4 battery, follow these maintenance guidelines:

- **Regular Inspection:** Periodically check all cable connections for tightness and signs of corrosion. Ensure the battery casing is clean and free from debris.
- **Temperature Management:** Operate the battery within its specified temperature range. Avoid prolonged exposure to extreme heat or cold.
- **Charge Level:** For long-term storage, store the battery at approximately 50% State of Charge (SOC). Avoid leaving the battery fully discharged for extended periods.
- **Software Updates:** Keep the battery's firmware and mobile application updated to benefit from the latest features and performance improvements.

7. TROUBLESHOOTING

If you encounter issues with your E-LekTech battery, refer to the following common troubleshooting steps:

- **Battery Not Powering On:** Check all power connections. Ensure the ON/OFF switch is in the 'ON' position. Verify the battery's charge level.
- **Low Power Output:** Confirm that the battery is adequately charged. Check for any error messages on the smart display or app. Inspect all cables for damage or loose connections.
- **Over-temperature Warning:** Ensure the battery is in a well-ventilated area. Reduce load if possible. Allow the battery to cool down.
- **App Connectivity Issues:** Ensure Bluetooth is enabled on your device and the battery. Restart the app and try reconnecting.

For persistent issues or complex problems, please contact E-LekTech customer support for assistance.

8. SPECIFICATIONS

Key technical specifications for the E-LekTech 48V 100Ah LiFePO4 Lithium Battery:

Feature	Specification
Brand	E-LekTech
Model	SH-48-100-BT
Voltage	48V
Capacity	100Ah
Energy	5.12kWh
BMS	200A Intelligent BMS
Max. Continuous Discharge Current	200A
Max. Load Power	10.24kW
Cycle Life	10,000+ cycles
Lifespan	Up to 10 years
Weight	90 pounds
Product Dimensions	19.3 x 15.1 x 6.1 inches (Length x Width x Height)
Number of Cells	16
Terminal Type	M8
Automotive Fit Type	Universal Fit

9. WARRANTY AND SUPPORT

E-LekTech provides a **5-year warranty** for this battery, covering defects in materials and workmanship under normal use and service conditions as outlined in this manual (non-human caused damage).

If you encounter any problems or have questions regarding the product, please contact E-LekTech customer support. We aim to analyze and help resolve issues within 24 hours, restore battery usage, and introduce optimal usage methods. For quality-related issues within 5 years, we offer free return and exchange services.

For further assistance, please refer to the contact information provided with your purchase or visit the official E-LekTech website.