

CYCCLEVOLT 51.2V 100Ah*4

CYCCLEVOLT 48V 400Ah LiFePO4 Lithium Battery User Manual

Model: 51.2V 100Ah*4

1. INTRODUCTION AND OVERVIEW

This manual provides essential instructions for the safe and efficient use of your CYCCLEVOLT 48V 400Ah LiFePO4 Lithium Battery. This high-capacity battery system is designed for various applications, including backup energy, off-grid power solutions, solar energy systems, and recreational vehicles (RVs). Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of your battery.

2. SAFETY INFORMATION

Always prioritize safety when handling and operating lithium batteries. Failure to follow safety guidelines can result in property damage, injury, or death.

- **Read All Instructions:** Familiarize yourself with all instructions and warnings before use.
- **Qualified Personnel:** Installation and maintenance should only be performed by qualified personnel.
- **Proper Ventilation:** Ensure adequate ventilation around the battery during operation and charging.
- **Avoid Short Circuits:** Do not short-circuit the battery terminals. Use insulated tools.
- **Water and Moisture:** Keep the battery away from water, moisture, and corrosive substances.
- **Temperature Limits:** Operate the battery within specified temperature ranges.
- **Emergency Procedures:** Know how to handle emergencies such as fire or electrolyte leakage.

The battery packaging indicates compliance with UN 3480 regulations for lithium-ion batteries, signifying safe transport and handling standards.



Image: Shipping box with UN 3480 Lithium Ion Batteries hazard label, indicating compliance with transport regulations.

3. PACKAGE CONTENTS

Upon unpacking, verify that all components are present and undamaged. The standard package for the CYCCLEVOLT 48V 100Ah battery includes:

- CYCCLEVOLT 51.2V 100Ah LiFePO4 Battery (3U Rack Metal Case)
- User Manual
- Parallel aluminum plates (for connecting multiple batteries)
- PC communication cable
- Inverter communication cable
- Parallel communication cable
- Power cable
- Stacking brackets (for vertical installation)

3U Rack Metal Case Battery



Anti-collision



Fireproof



Puncture-proof

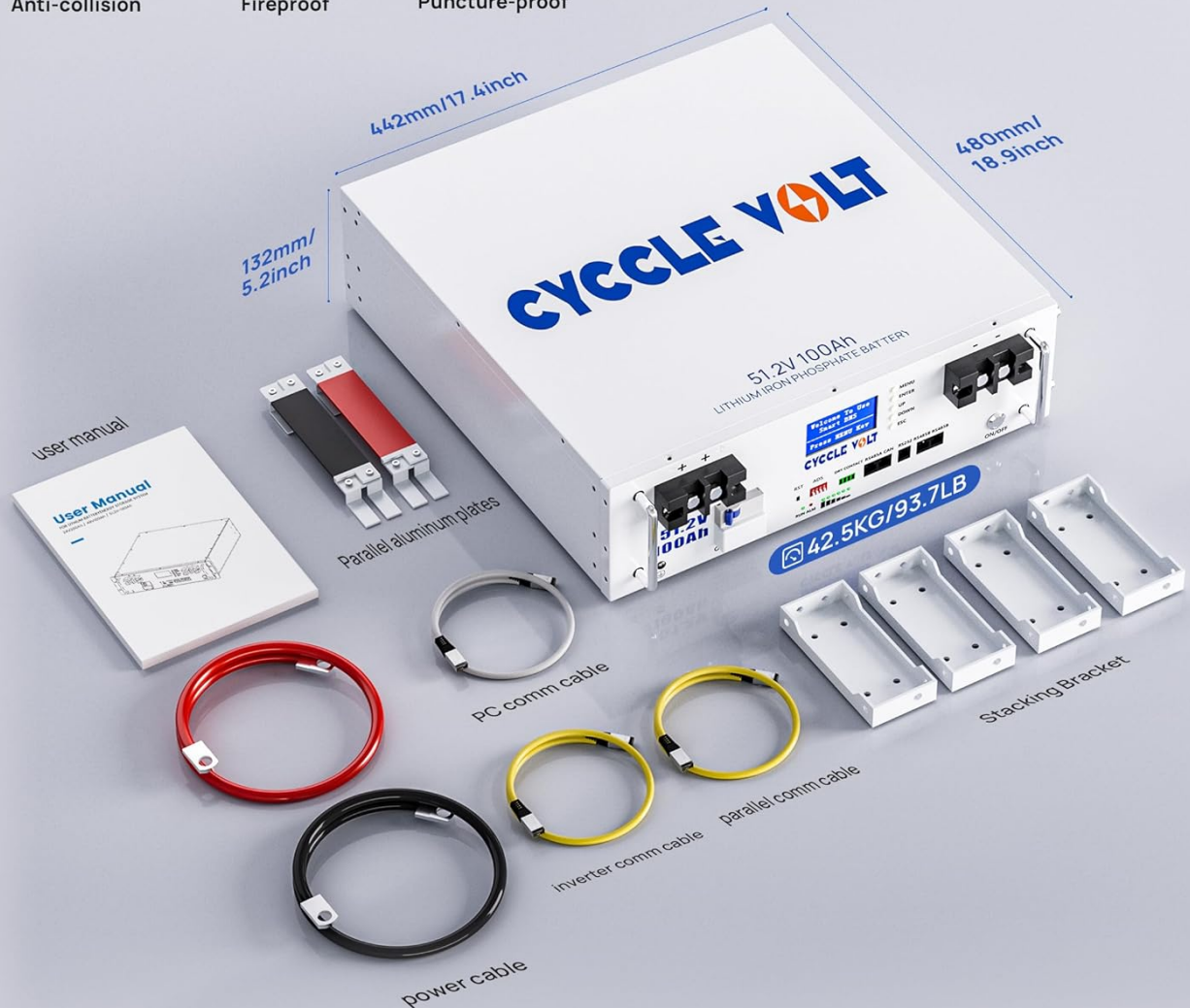


Image: The CYCCLEVOLT 3U Rack Metal Case Battery shown with its included accessories: user manual, parallel aluminum plates, various communication cables (PC, inverter, parallel), power cable, and stacking brackets.


4. PRODUCT FEATURES

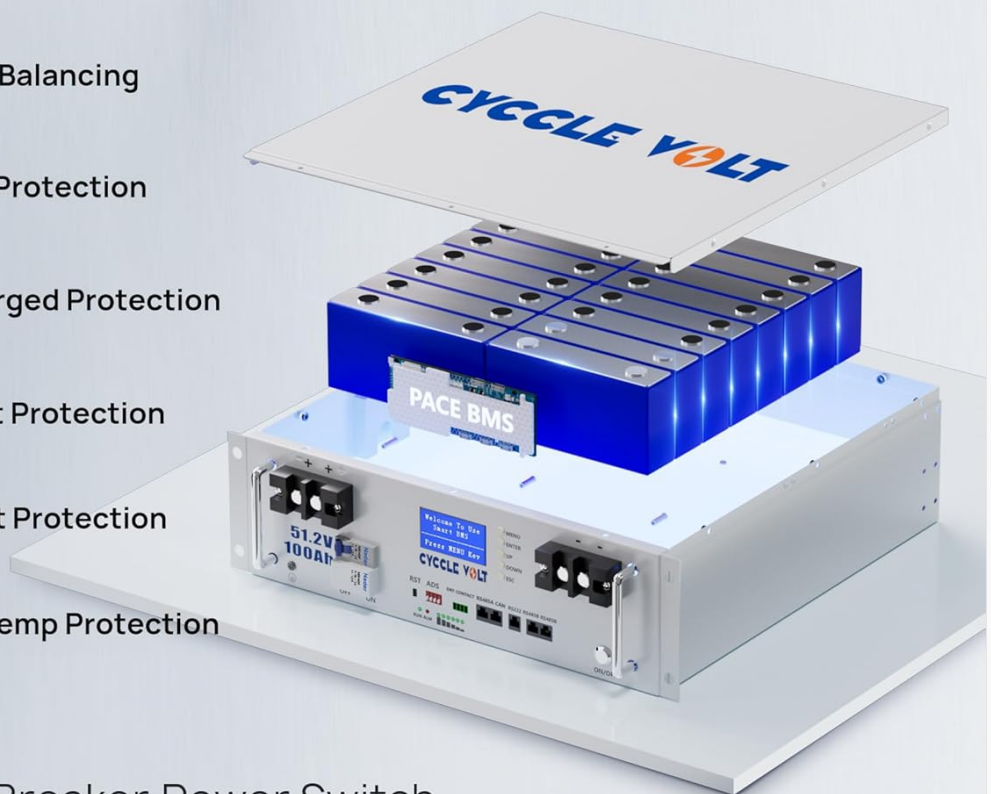
The CYCCLEVOLT 48V 400Ah LiFePO4 Lithium Battery system offers advanced features for reliable power storage:

- **High Capacity:** 48V 400Ah (20kWh) LiFePO4 battery for substantial energy storage.
- **Bluetooth & WiFi Connectivity:** Enables remote monitoring and control via a dedicated mobile application.
- **Smart Display:** Integrated display provides real-time battery status, including SOC, voltage, temperature, and current.
- **Dual Terminals & One-Touch Switch:** Features dual positive and negative terminals for balanced current distribution and a convenient one-touch power switch.
- **Advanced BMS:** Equipped with a 100A intelligent Battery Management System (BMS) for protection against overcharging, over-discharging, over-current, and short circuits.

- **Low Temperature Protection:** Includes low temperature cut-off protection to prevent damage below -20°C (-4°F) for discharging and 0°C (32°F) for charging.
- **RS485 & CAN Communication:** Supports seamless communication with most solar inverters for comprehensive system monitoring.
- **Expandable Design:** Up to 15 batteries can be connected in parallel, allowing for a maximum capacity of 76.8 kWh.
- **Durable Construction:** Robust metal housing provides enhanced protection against collisions and punctures.

16PCS Grade A Cells & Superior BMS

-  Cell Passive Balancing
-  Overcharge Protection
-  Over-discharged Protection
-  Short-circuit Protection
-  Over-current Protection
-  High & Low Temp Protection



125A Circuit Breaker, Power Switch,
BMS- Triple Security

Image: An exploded view of the CYCCLEVOLT battery, highlighting the internal 16 Grade A cells and the superior Battery Management System (BMS) which provides multiple protections including cell passive balancing, overcharge, over-discharge, short-circuit, over-current, and high/low temperature protection.

Compact Size with Large Capacity Save Your Room & Less Wire



Image: A visual comparison illustrating the compact size and lighter weight of one 51.2V 100Ah CYCCLEVOLT LiFePO4 battery (93 lbs) compared to four 12V 100Ah lead-acid batteries (260 lbs), emphasizing space-saving and ease of transport.

5. SETUP AND INSTALLATION

The CYCCLEVOLT battery is designed for flexible installation, including 3U rack mounting or stacking.

5.1 Rack Mounting

The battery measures 48 x 44 x 13 cm (L x W x H) and is designed to fit into a standard 3U rack cabinet. Ensure the rack is sturdy enough to support the battery's weight (42 kg / 93.7 lbs).

5.2 Parallel Expansion

For increased capacity, up to 15 batteries can be connected in parallel. This allows for a total system capacity of up to 76.8 kWh (51.2V 1500Ah). Use the provided parallel aluminum plates and communication cables for proper connection.

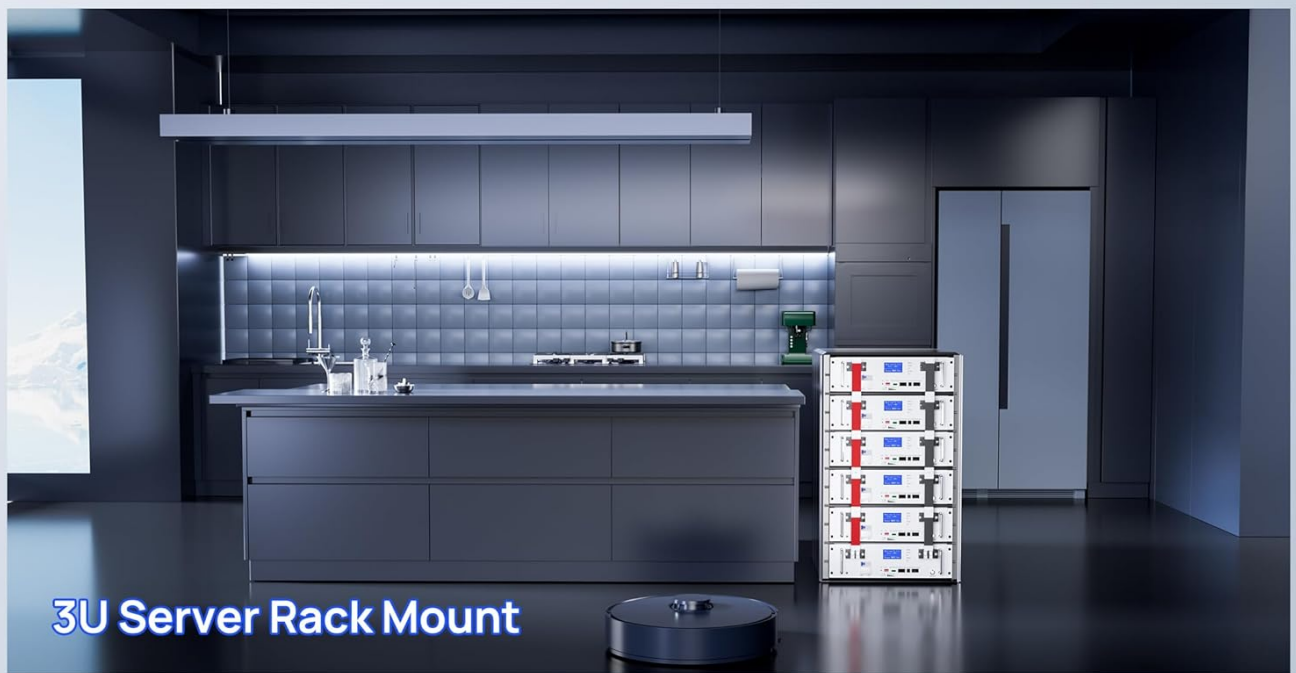


Image: Two installation examples: CYCCLEVOLT batteries mounted in a 3U server rack in a modern kitchen setting, and batteries stacked using original stacking brackets in a garage environment.

Rack Mount LiFePO4 Battery

Max.15PCS in Parallel Max.76.8KWh Capacity

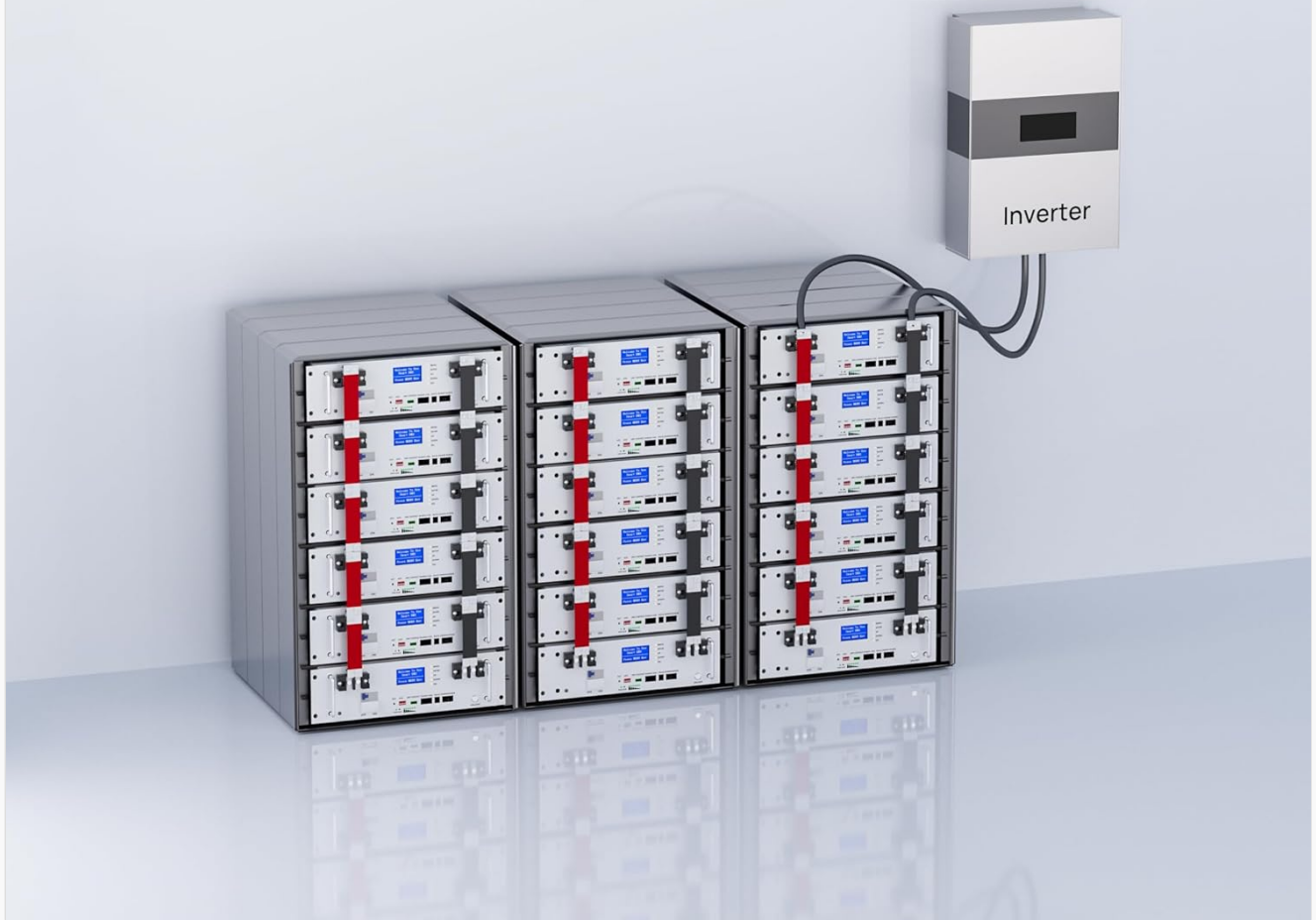


Image: A visual representation of multiple CYCCLEVOLT rack mount LiFePO4 batteries connected in parallel to an inverter, demonstrating the system's expandability up to 15 units for a maximum of 76.8 kWh capacity.

6. OPERATION

6.1 Powering On/Off

The battery features a one-touch switch for easy power control. Press the switch to turn the battery on or off. A circuit breaker is also integrated to automatically shut off power and protect against overcharging.

6.2 Smart Display

The integrated smart display provides real-time operational data. Use the MENU, ENTER, UP, DOWN, and ESC buttons to navigate through the display options and view parameters such as:

- Pack Voltage (PackV)
- Input/Output Current (In/Out)
- Temperature

- Cell Voltage
- State of Charge (SOC)
- Remaining Capacity (RM)

6.3 APP Control (Bluetooth & WiFi)

Download the dedicated CYCCLEVOLT mobile application to connect to your battery via Bluetooth or WiFi. The app allows for:

- Real-time battery status monitoring
- Battery control functions
- Battery fault diagnosis

6.4 Charging Methods

The battery supports multiple charging methods, including AC outlet (58.6V charger), solar power (e.g., 1200W solar array), and generators. Fast charging capabilities are integrated.

6.5 Typical Appliance Runtimes

The 20kWh capacity provides extended runtimes for various appliances. Examples include:

- Mini Fridge (150W): Approximately 34 hours
- Microwave (800W): Approximately 6.4 hours
- TV (200W): Approximately 25.6 hours
- Air Conditioner (1000W): Approximately 5 hours
- Phone (80W): Approximately 60 hours

5.12KWh Energy & Long-lasting for Daily Need



Mini Fridge(150W)

34 H



Microwave(800W)

6.4 H



TV(200W)

25.6 H



air-con(1000W)

5 H



Phone(80W)

60 H

Image: A kitchen scene demonstrating the CYCCLEVOLT battery system's capacity to power daily needs, with icons showing estimated runtimes for appliances like a mini-fridge, microwave, TV, air conditioner, and phone.



Image: Four CYCCLEVOLT 51.2V 100Ah batteries stacked, showcasing their compact design and readiness for integration into a home energy system.

7. COMMUNICATION PROTOCOLS (RS485 & CAN)

The CYCCLEVOLT battery is equipped with RS485 and CAN communication ports, enabling seamless integration and data exchange with a wide range of solar inverters. This allows for comprehensive monitoring of key battery data such as State of Charge (SOC), voltage, temperature, and current for each cell, directly through your inverter's interface.

The battery is compatible with many popular inverter brands. Consult your inverter's manual for specific communication setup instructions.

CAN/RS485 Dual Communication

Compatible with Various Solar Inverter



Image: The CYCCLEVOLT battery displaying its smart LCD and communication ports (RS485, CAN), surrounded by logos of various compatible solar inverter brands like Pylontech, Voltronic Power, Luxpowertek, Growatt, INVT, Deye, SRNE, Solis, Megarevo, Must, SMA, Sofar, Sol-Ark, PowMr, Sorotec, Goodwe, and Victron Energy.

8. MAINTENANCE

The CYCCLEVOLT LiFePO4 battery is designed for minimal maintenance, but adherence to certain guidelines will ensure its long lifespan and optimal performance.

- **Regular Inspection:** Periodically check the battery and connections for any signs of damage, corrosion, or loose terminals.
- **Cleanliness:** Keep the battery clean and free from dust and debris. Use a dry cloth for cleaning.
- **Temperature Management:** Ensure the battery operates within its recommended temperature range. The integrated low temperature cut-off protection prevents charging below 0°C (32°F) and discharging below -20°C (-4°F).
- **Firmware Updates:** Check for any available firmware updates for the BMS via the mobile application to ensure the latest features and optimizations.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50% State of

Charge (SOC) and stored in a cool, dry place.

Low Temperature Cut-off Protection



CHARGING CUT-OFF
0°C/32°F



DISCHARGING CUT-OFF
-20°C/-4°F



Image: The CYCCLEVOLT battery illustrating its low temperature cut-off protection, with charging cut-off at 0°C/32°F and discharging cut-off at -20°C/-4°F, suitable for various climates including RV use in cold conditions.

9. TROUBLESHOOTING

If you encounter issues with your CYCCLEVOLT battery, refer to the following general troubleshooting steps. For specific error codes or persistent problems, consult the detailed troubleshooting section in the full product manual or contact customer support.

- **No Power/Display Off:** Check the one-touch switch to ensure the battery is turned on. Verify all cable connections are secure.
- **Charging Issues:** Ensure the charger is correctly connected and functioning. Check the input voltage and current. The BMS may prevent charging if temperatures are too low (below 0°C).
- **Discharging Issues:** The BMS may cut off discharge if the battery is over-discharged, over-current, or if temperatures are too low (below -20°C). Check the load connected to ensure it is within the battery's specifications.

- **Communication Errors:** Verify that communication cables (RS485/CAN) are correctly connected to both the battery and the inverter. Ensure the inverter settings are configured for the correct communication protocol.
- **Abnormal Readings:** If the smart display or app shows unusual voltage, current, or temperature readings, power cycle the battery and re-check. If the issue persists, contact support.

10. SPECIFICATIONS

Detailed specifications for the CYCCLEVOLT 48V 400Ah LiFePO4 Lithium Battery (Model: 51.2V 100Ah*4):

Specification	Value
Brand	CYCCLEVOLT
Model	51.2V 100Ah*4 (400Ah total)
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	51.2V
Nominal Capacity	400Ah (20kWh)
Cycle Life	Over 8000 cycles (at 80% DoD)
Lifespan	10 years
BMS	100A Intelligent BMS
Communication Ports	RS485, CAN
Connectivity	Bluetooth, WiFi (APP Control)
Low Temperature Protection	Charging cut-off at 0°C (32°F), Discharging cut-off at -20°C (-4°F)
Dimensions (L x W x H)	48 x 44 x 13 cm (18.9 x 17.4 x 5.2 inches) per 100Ah unit
Weight	42 kg (93.7 lbs) per 100Ah unit
Expansion	Up to 15 batteries in parallel (max 76.8 kWh)

11. WARRANTY AND SUPPORT

CYCCLEVOLT is committed to providing reliable energy solutions and excellent customer service.

11.1 Warranty

The CYCCLEVOLT 48V 400Ah LiFePO4 Lithium Battery comes with a **5-year guarantee**, reflecting its robust design and long lifespan of over 10 years and 8000 cycles.

11.2 Customer Support

For any inquiries, technical assistance, or troubleshooting, please contact CYCCLEVOLT customer support. We offer:

- 24-hour customer service
- Local warehouse support in the US
- Engineer remote assistance

Contact information can be found on the official CYCCLEVOLT website or through your purchase platform.



Related Documents - 51.2V 100Ah*4

	<p>Li Time 25.6V 100Ah LiFePO4 Battery Manual</p> <p>Official product manual for the Li Time 25.6V 100Ah LiFePO4 battery with 100A BMS. Includes specifications, dimensions, connection guides, and troubleshooting.</p>
	<p>ENJOYBOT LiFePO4 Deep Cycle Battery Instruction Manual - 12V, 24V, 36V, 48V Models</p> <p>Comprehensive instruction manual for ENJOYBOT LiFePO4 Deep Cycle Batteries (12V, 24V, 36V, 48V). Covers product introduction, specifications, low-temperature cut-off, connection methods, precautions, features, comparison with lead-acid batteries, and warranty information.</p>
	<p>ECO-WORTHY 51.2V 100AH LiFePO4 Battery 3U Manual - Operation and Maintenance</p> <p>Comprehensive operation and maintenance manual for the ECO-WORTHY 51.2V 100AH LiFePO4 Battery 3U (Model EW-SRB48100-BV2.0). Covers safety, product overview, installation, specifications, troubleshooting, and technical support.</p>
	<p>HQST 12V 100Ah LiFePO4 Battery User Manual and Specifications</p> <p>Detailed user manual and technical specifications for the HQST 12V 100Ah Lithium Iron Phosphate (LiFePO4) Deep Cycle Battery. Includes setup, operation, maintenance, troubleshooting, safety guidelines, and warranty information.</p>
	<p>Li Time 48V 100Ah LiFePO4 Battery Product Manual</p> <p>This product manual provides detailed information on the Li Time 48V 100Ah LiFePO4 battery, covering product overview, technical specifications, parallel connection guidelines, and troubleshooting steps for optimal performance and longevity.</p>



[Humsienk 48V Rack Series LiFePO4 Deep Cycle Battery User Manual](#)

Comprehensive user manual for the Humsienk 48V Rack Series LiFePO4 Deep Cycle Battery. Details specifications, function introduction, protection mechanisms, communication protocols, parallel operation, and warranty information for models like the 51.2V 100Ah.