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### Anern AN-LFP24100C

# Anern 24V 100Ah LiFePO4 Lithium Battery Instruction Manual

Model: AN-LFP24100C

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## 1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your Anern 24V 100Ah LiFePO4 Lithium Battery. This deep-cycle battery is designed for energy storage applications such as residential solar systems, RV/marine power, and off-grid installations. It features a 100A Battery Management System (BMS) for enhanced protection and a long cycle life.

Please read this manual thoroughly before installation and operation to ensure proper usage and maximize the battery's lifespan.



## Clamp Specifications

Clamps-9/6 Inch

silver-plated copper clamps

Lower internal resistance

guaranteed high current discharge performance



Image: Front view of the Anern 24V 100Ah LiFePO4 Lithium Battery, displaying its model number and key specifications on the label.

## 2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury or damage to the battery and connected equipment:

- Do not short-circuit the battery terminals.
- Do not expose the battery to fire, high temperatures, or direct sunlight for extended periods.
- Do not immerse the battery in water or other liquids.
- Do not disassemble, crush, or puncture the battery.
- Use only compatible chargers and charging methods.
- Keep the battery away from children and pets.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection during installation and handling.
- Ensure adequate ventilation when charging or discharging the battery.
- This battery is designed for energy storage applications only and **is not recommended for use as a starter battery** for vehicles or high-cranking power equipment.

### 3. PRODUCT OVERVIEW

The Anern 24V 100Ah LiFePO4 Lithium Battery is an advanced power solution featuring:

- **Eco-Friendly & Safe:** Utilizes lithium iron phosphate chemistry for superior thermal stability and environmental responsibility.
- **Long-Life Performance:** Engineered for over 15,000 charge cycles, providing maintenance-free power for decades.
- **Integrated 100A BMS:** Advanced Battery Management System offers safeguards including instant 100A overcurrent cutoff, cell voltage balancing, and temperature monitoring.
- **Space-Optimized Design:** Compact dimensions (20.55 × 9.45 × 8.58 inches) and lighter weight (48.5 lbs / 22 kg) compared to conventional models, offering 30% higher energy density.

#### What's in the Box:

- 1 x Anern 24V 100Ah LiFePO4 Lithium Battery



Image: Diagram highlighting the battery's stability features, such as a 10-year service life, lighter weight, and built-in protections for overload, over-discharge, overcurrent, short circuit, and high temperature shutdown.



Image: An RV in a winter setting, demonstrating the battery's low-temperature safety features, including automatic cut-off for charging and discharging at extreme cold temperatures.

## 4. SETUP AND INSTALLATION

Follow these guidelines for proper setup and installation of your LiFePO<sub>4</sub> battery:

- **Placement:** Install the battery in a dry, well-ventilated area, away from direct heat sources or flammable materials.
- **Connections:** Ensure all connections are secure and properly tightened to prevent loose contacts and potential hazards. Use appropriate gauge cables for your application.
- **Series/Parallel Connections:** The battery supports connection of up to 2 units for a 51.2V 800Ah battery system, providing up to 40.96kWh energy. Consult a qualified electrician for complex system designs.
- **Charging:** Connect the battery to a compatible LiFePO<sub>4</sub> charger or solar charging system (e.g., with an MPPT solar charging controller).
- **Initial Charge:** It is recommended to fully charge the battery before its first use.

## Easy operation and easy expansion

Supports connection of up to 2PCS  
Max. 800A continuous charging/discharging current  
Max. 40.96kW Load capacity

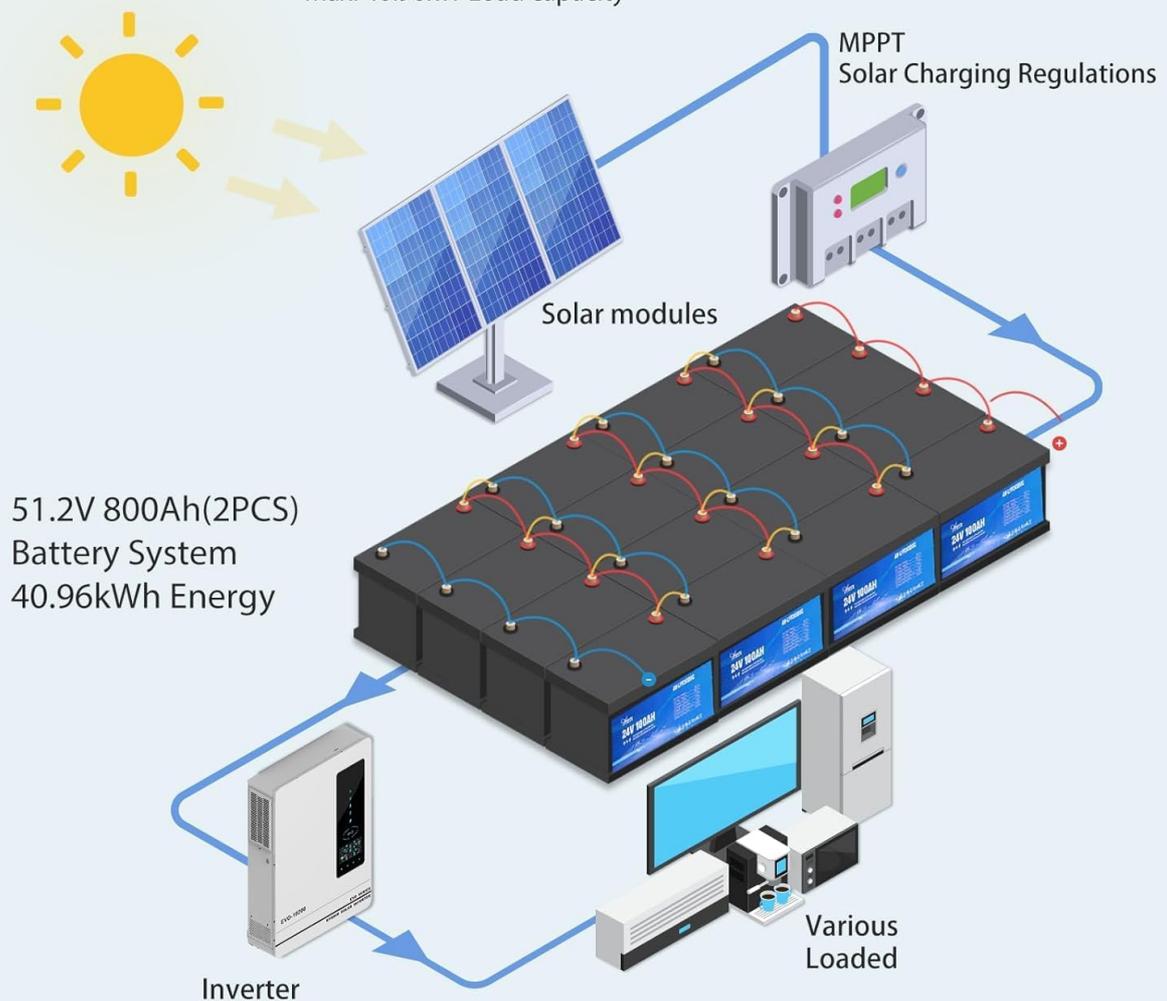


Image: A schematic illustrating a typical solar power system integration, showing solar panels, charge controller, battery bank, inverter, and connected loads.

Your browser does not support the video tag.

Video: A brief overview of the LiFePO4 Lithium Battery, showcasing its physical appearance and key features.

## 5. OPERATING INSTRUCTIONS

The Anern 24V 100Ah LiFePO4 battery is designed for deep cycle applications. Ensure your system components (charger, inverter, loads) are compatible with the battery's voltage and current specifications.

- **Charging Temperature:** Optimal charging occurs between 0°C and 60°C (32°F to 140°F). The BMS will prevent charging below 0°C.
- **Discharging Temperature:** Optimal discharging occurs between -20°C and 60°C (-4°F to 140°F). The BMS will prevent discharging below -20°C.
- **Voltage/Current Variance:** The battery may show 1-5% voltage/current variance across measurement conditions. This is normal.
- **Applications:** Ideal for solar energy storage, off-grid camping, RVs, marine applications, and trolling motors.



# Suitable for Various Appliances



Caravan



Solar system



Battery backup systems



Trolling motor



Monitoring and security

Image: A visual representation of the battery's versatility, suitable for solar systems, backup power, RVs, marine use, and security applications.

**Max.4P4S to 51.2V400AH**

Appliance	Power (W)	Runtime (hrs)
light	30W	682hrs
TV	100W	204hrs
washing machine	500W	40hrs
microwave oven	1000W	20hrs

Image: Depiction of the battery's capacity to power household appliances in a solar-integrated home setting.

## 6. MAINTENANCE

To ensure optimal performance and longevity of your Anern LiFePO4 battery:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean as necessary.
- **Storage:** If storing the battery for an extended period, maintain bi-annual charge cycles to prevent deep discharge and preserve battery health. Store in a cool, dry place.
- **Cleaning:** Keep the battery casing clean and free from dust and debris. Use a dry cloth for cleaning.

## 7. TROUBLESHOOTING

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

- **No Power Output:** Check all cable connections for tightness and proper polarity. Verify the battery's state of charge. The BMS may have activated a protection mode (e.g., over-discharge, overcurrent).
- **Battery Not Charging:** Ensure the charger is compatible with LiFePO4 batteries and is functioning correctly. Check charging temperature; the BMS will prevent charging below 0°C.
- **Reduced Performance:** Confirm that the battery is being used within its specified operating parameters. Overloading or extreme temperatures can affect performance.
- **Unusual Odor or Swelling:** Immediately disconnect the battery and contact customer support. Do not attempt to use or charge the battery.

For persistent issues, refer to the 'After-Sales Service' section for support contact information.

## 8. SPECIFICATIONS

Detailed technical specifications for the Anern 24V 100Ah LiFePO4 Lithium Battery (Model AN-LFP24100C):

Parameter	Value	Remark
Total Energy	2560 Wh	
Rated Capacity	100Ah	Minimum according to the discharge rate
Nominal Voltage	25.6V	Working Voltage
End-off Voltage	21.6V	End-of-discharge
Charging Cut-off Voltage	29.2V	Upper Battery Voltage
IR	≤60mΩ	Test in AC 1KHZ
Standard Charge Current	≤50A	
Max. Discharge Continuous Current	100A	
Max. Instantaneous Discharge Current	200A (3S)	

Parameter	Value	Remark
Operating Temperature (Charge)	0~60°C	
Operating Temperature (Discharge)	-20~60°C	
Storage Temperature	-30~60°C	
Dimensions (L×W×H)	522 × 240 × 218 mm (±3mm)	
Item Weight	22 kg (±1.0 kg)	



## 24V 100AH Battery Specification

Before using this battery, please read this specification carefully for correct use.

**1. Conventional technical parameters:**

No.	Item	General parameters	Remark
1	Total Energy	2560 Wh	
2	Rated Capacity	Nominal Capacity: 100Ah	0.2C/0.2C Capacity≥100% 0.5C/0.5C Capacity≥95% 0.5C/1.0C Capacity≥90%
		Minimum according to the discharge rate	
3	Rate Voltage	25.6V	Working Voltage
4	End-off Voltage	21.6V	End-of-discharge
5	Charging Cut-off Voltage	29.2V	Upper Battery Voltage
6	IR	≤60mΩ	Test in AC 1KHZ
7	Standard Charge	≤50A	
8	Max. Discharge Continuous Current	100A	
9	Max. Instantaneous Discharge Current	200A(3S)	
10	Operating Temperature	Charge: 0~60°C	
		Discharge: -20~60°C	
11	Size/mm	522*240*218 ±3mm	
12	Weight	22kg±1.0 kg	

Image: A comprehensive table outlining the technical specifications of the 24V 100Ah battery.

## 9. WARRANTY AND SUPPORT

Anern is committed to providing high-quality products and excellent customer service.

- **After-Sales Service:** Anern provides professional technical support and customer service, guaranteeing a fast response within 24 hours. Our expert team offers troubleshooting, product optimization guidance, and lifetime maintenance advice to ensure your complete satisfaction.
- **Contact:** For any inquiries, technical assistance, or warranty claims, please contact Anern customer support through the official website or your purchase platform.

