

## Dyness 24V 100Ah 160L

# Dyness 24V 100Ah LiFePO4 Lithium Battery Instruction Manual

Model: 24V 100Ah 160L

## 1. INTRODUCTION

Thank you for choosing the Dyness 24V 100Ah LiFePO4 Lithium Battery. This manual provides essential information for the safe and efficient operation, installation, and maintenance of your battery. Please read it thoroughly before use.

The Dyness 24V 100Ah LiFePO4 battery is designed with A+ Grade lithium iron phosphate cells, offering exceptional durability, safety, and long-lasting power. It features a smart 100A Battery Management System (BMS) for comprehensive protection and supports flexible expansion for various applications.

## 2. SAFETY INFORMATION

### **WARNING: Risk of Fire, Explosion or Burns.**

- DO NOT Short circuit.
- DO NOT Reverse connections from charger to battery.
- DO NOT Disassemble.
- DO NOT Throw into fire or incinerate.
- DO NOT Heat above 70°C (158°F).
- Use ONLY recommended battery charger.
- DO NOT MIX-WIRE IT WITH LEAD ACID/GEL/AGM BATTERY.
- Always wear insulating gloves during installation and wiring.

## 3. PRODUCT FEATURES

- **High Performance A+ Grade Cells:** Built with premium lithium iron phosphate cells for exceptional durability, safety, and long-lasting power. Each cell is professionally tested.
- **Smart 100A BMS Protection:** Integrated Battery Management System safeguards against overcharge, over-discharge, overcurrent, short circuit, overheating, and includes advanced low-

temperature cut-off.

- **Extreme Cold Environments Battery Protection:** Advanced low-temperature cut-off ensures safe and reliable performance even in cold climates.
- **Expandable Energy:** Supports flexible expansion with series or parallel connections. Up to 4P2S connection can create a 51.2V 400Ah battery bank (20.48kWh).
- **Wide Applications:** Ideal for RVs, campers, trolling motors, marine systems, golf carts, solar setups, and emergency backup power.
- **Bluetooth Monitoring:** Upgraded Bluetooth monitoring allows real-time data access via a smartphone app.

## 4. SETUP AND INSTALLATION

### 4.1 Physical Dimensions and Weight

The Dyness 24V 100Ah battery is designed to be compact and manageable for various installations.

- **Item Weight:** 44.3 pounds
- **Product Dimensions:** 8.11 x 20.9 x 8.54 inches



Image: Dyness 24V 100Ah LiFePO4 battery with dimensions labeled, showing it is 10% lighter and offers 2X capacity compared to two 12V 100Ah batteries.

## 4.2 Connection Options

The Dyness 24V 100Ah LiFePO4 battery supports both parallel and series connections to meet diverse power requirements.

- **Parallel Connection:** Connect up to 4 identical batteries in parallel to increase overall capacity while maintaining the 24V nominal voltage. This can create a 24V (25.6V) 400Ah battery system.
- **Series Connection:** Connect up to 2 identical batteries in series to increase the voltage. For example, two 24V 100Ah batteries in series will create a 48V (51.2V) 100Ah battery system.
- **Combined Series & Parallel:** For maximum energy storage, up to 4P2S connection is supported, allowing for a 51.2V 400Ah battery bank with 20.48kWh capacity.



Image: Connection diagram illustrating how to combine multiple Dyness 25.6V 100Ah batteries in series and parallel to achieve higher voltage and capacity systems, up to 20.48kWh.

## 4.3 Initial Charging

Upon arrival, the battery typically carries about 30%-50% capacity due to shipping regulations. It is recommended to fully charge the battery before its first use. Use a compatible LiFePO4 charger for optimal performance and battery longevity.

## 5. OPERATING INSTRUCTIONS

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### 5.1 Bluetooth Monitoring

The Dyness 24V 100Ah battery features upgraded Bluetooth monitoring, allowing you to access real-time battery data directly from your smartphone. This eliminates the need for external meters or opening battery compartments.

- **Connect Instantly:** Pair your smartphone with the battery via Bluetooth.
- **Monitor Key Data:** Track remaining battery capacity, individual cell voltages, total voltage, current, power, and estimated remaining runtime.
- **Notifications:** Receive alerts and notifications regarding battery status and potential issues.

Video: This video demonstrates how to connect to the Dyness 24V 100Ah LiFePO4 battery via Bluetooth and monitor its status, including capacity, cell voltages, and runtime, directly from a smartphone app. It highlights the convenience of checking battery data without physical access.

### 5.2 Typical Applications



This battery is versatile and suitable for a wide range of applications:

- **RV & Campers:** Provides reliable power for all your on-the-road electrical needs.
- **Marine Systems & Trolling Motors:** Offers long-lasting and stable power for boats and electric trolling motors.
- **Solar Systems:** Excellent for home solar storage and off-grid power systems due to its high cycle life and expandability.
- **Emergency Backup Power:** A dependable solution for backup power during outages.

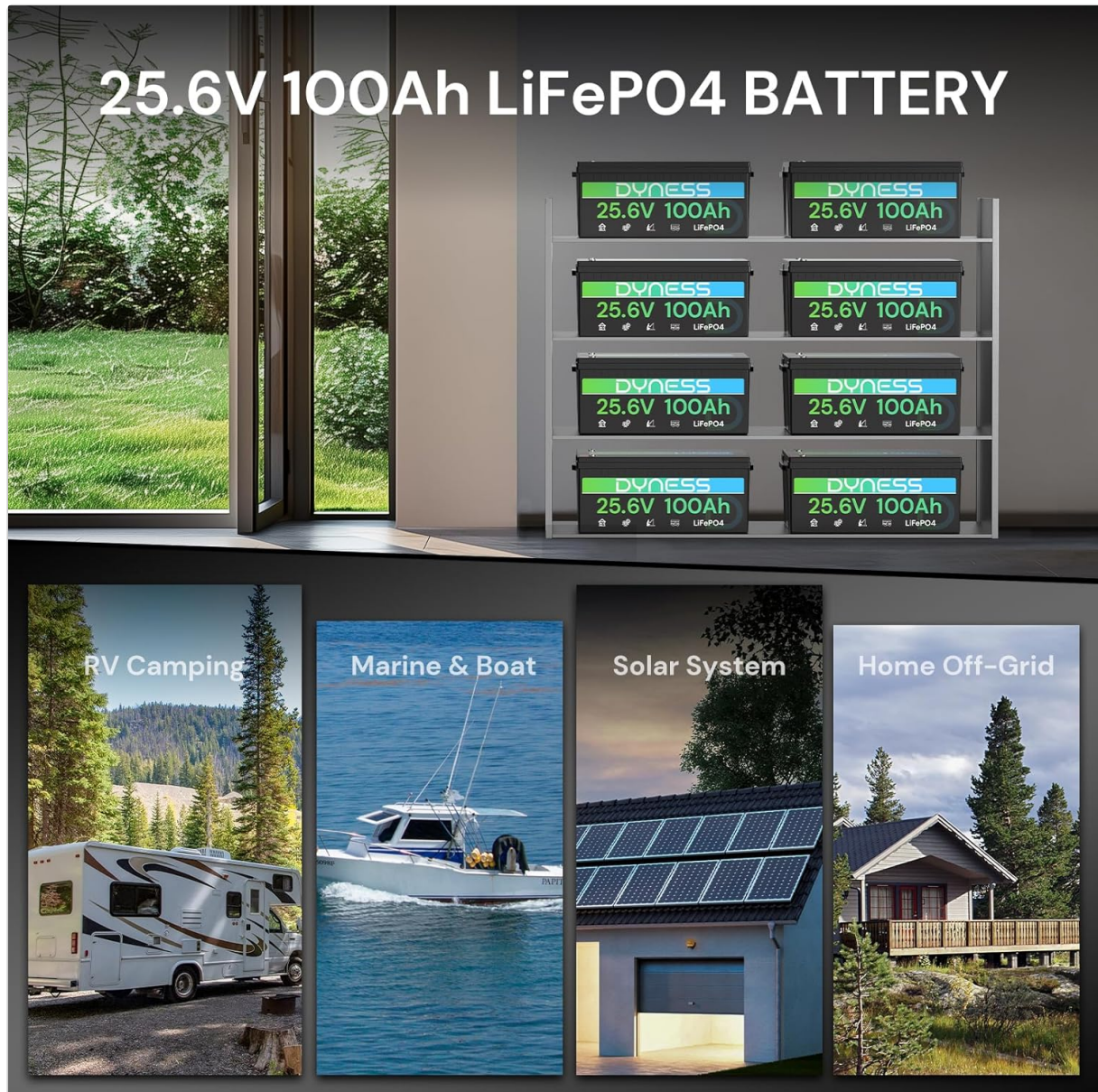


Image: The Dyness 25.6V 100Ah LiFePO4 battery is shown powering common appliances such as a coffee maker, oven, electric fan, and laptop, demonstrating its capacity for various uses in an outdoor setting with an RV.



Image: A visual representation of the Dyness 25.6V 100Ah LiFePO4 battery's versatility, illustrating its use in RV camping, marine environments, solar power systems, and off-grid home setups.

## 6. MAINTENANCE

LiFePO4 batteries require minimal maintenance compared to lead-acid batteries, but proper care ensures maximum lifespan and performance.

- **Temperature Management:** The built-in BMS includes low-temperature cut-off protection, preventing charging below 0°C (32°F) and discharging below -20°C (-4°F). Ensure the battery operates within its specified temperature range for optimal performance.
- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Keep the battery clean and dry.
- **Storage:** For long-term storage, charge the battery to approximately 50% State of Charge (SOC) and store it in a cool, dry place. Avoid storing above 70°C (158°F).





Image: The Dyness 25.6V 100Ah LiFePO4 battery is depicted in a winter scene, highlighting its low-temperature cut-off protection, which prevents discharging below -4°F (-20°C) and charging below 32°F (0°C).

## 7. SPECIFICATIONS

Feature	Detail
Brand	Dyness
Model	24V 100Ah 160L
Voltage	25.6 Volts
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
Battery Capacity	100 Ah (2560 Wh)
Item Weight	44.3 pounds
Product Dimensions	8.11 x 20.9 x 8.54 inches
BMS	Smart 100A BMS with Low-Temperature Cut-off

Cycle Life	4000+ Deep Cycles
Connection Support	Up to 4P2S (20.48kWh)
Monitoring	Upgraded Bluetooth Monitoring

## 8. WARRANTY AND SUPPORT

Dyness provides professional technical support and online customer service with a fast response within 24 hours. If you have any product-related issues or questions, do not hesitate to contact the Dyness support team directly.

- **Warranty:** The product comes with a 10-year lifetime claim, indicating long-term reliability.
- **Customer Service:** Available for technical assistance and product inquiries.



Image: Customer service representatives are shown with headsets, symbolizing the professional technical support and online customer service provided by Dyness, with a promise of fast response within 24 hours.

