

## Dyness AR1.2-MINI TM

# Dyness 12V 100Ah Mini LiFePO4 Battery AR1.2-MINI TM Instruction Manual

Model: AR1.2-MINI TM | Brand: Dyness

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your Dyness 12V 100Ah Mini LiFePO4 Battery. This deep cycle lithium battery is designed for various applications including RVs, boats, trolling motors, solar off-grid systems, and golf carts. It features a compact and lightweight design, premium A+ grade LiFePO4 cells, advanced BMS protection, and low-temperature protection.

## 2. SAFETY INFORMATION

### WARNING: RISK OF FIRE, EXPLOSION, OR BURN

- DO NOT short circuit the (+) and (-) terminals with any metals.
- DO NOT immerse, throw, and wet battery in water.
- DO NOT heat above 60°C or throw battery into fire.
- DO NOT disassemble, crush, or modify the battery.
- DO NOT reverse the (+) and (-) terminals.
- Stopping using the battery under the conditions: abnormal heat, odor, deformation.
- Elevation no more than 4000m.

The battery is equipped with a built-in Battery Management System (BMS) that protects against overcharging, over-discharging, over-current, overheating, and short circuits. It also includes an upgraded low-temperature power-off function to ensure safe use in cold environments.

## 3. WHAT'S IN THE BOX

Upon opening the package, you will find:

- 1 x Dyness 12V 100Ah Mini LiFePO4 Battery (Model: AR1.2-MINI TM)

- 1 x User Manual
- 2 x M8\*16mm Terminal Bolts

Your browser does not support the video tag.

**Video Description:** This video demonstrates the unboxing of the Dyness 12V 100Ah Mini LiFePO4 Battery. It shows the battery being removed from its packaging, highlighting the included user manual and M8 terminals. The video also showcases the battery's compact size and integrated handles for easy portability.

## 4. SETUP AND INSTALLATION

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The Dyness 12V 100Ah Mini LiFePO4 Battery is designed for easy installation. It features standard M8 terminals for secure connections. Always ensure proper polarity when connecting the battery to your system.

### 4.1 Connecting Terminals

1. Ensure all power sources are disconnected before installation.
2. Connect the positive (+) cable to the positive terminal of the battery.
3. Connect the negative (-) cable to the negative terminal of the battery.
4. Securely tighten the M8 terminal bolts.

The battery's compact Group 24 size (L10.2\*W6.6\*H8.2 inches) offers a smaller footprint, making it easier to install in various applications like RVs and boats.

## COMPACT 12V 100Ah LiFePO4 BATTERY:

Lightweight, Space-Saving for RVs



**Image Description:** A Dyness 12V 100Ah Mini LiFePO4 Battery is shown installed in a compact RV storage compartment, demonstrating its space-saving design. The image highlights its suitability for recreational vehicles.

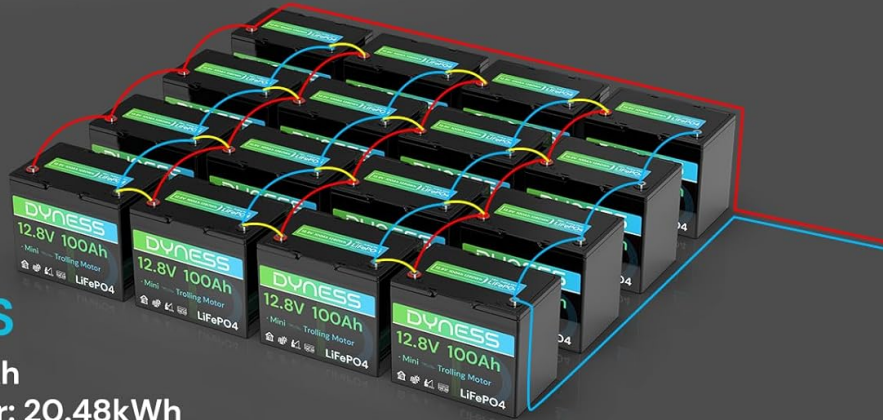
### 4.2 Series and Parallel Connections

The Dyness 12V 100Ah LiFePO4 battery supports series and parallel connections for increased voltage or capacity, up to 4P4S configurations. This allows for flexible power solutions for various needs.

## SERIES-PARALLEL COMBINATION

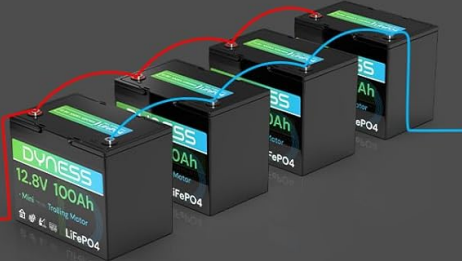
### ► 4P4S

51.2V 400Ah  
Total Power: 20.48kWh



### ► 4P

MAX 12.8V 400Ah  
Total Power: 5120Wh



### ► 4S

MAX 51.2V 100Ah  
Total Power: 5120Wh



**Image Description:** A diagram illustrates various series and parallel connection configurations for Dyness 12.8V 100Ah batteries, including 4P4S for 51.2V 400Ah (20.48kWh), 4P for 12.8V 400Ah (5120Wh), and 4S for 51.2V 100Ah (5120Wh).

## 5. OPERATING INSTRUCTIONS

### 5.1 Bluetooth Monitoring

The integrated Bluetooth module allows for wireless monitoring of your battery's status via the Dyness app. Connect instantly to monitor real-time voltage, current, state of charge, temperature, and capacity directly from your smartphone.

Your browser does not support the video tag.

**Video Description:** This video demonstrates the Bluetooth connectivity feature of the Dyness 12V 100Ah Mini LiFePO4 Battery. It shows a user connecting their smartphone to the battery via the Dyness app to monitor various parameters like voltage, current, state of charge, and temperature in real-time.

### 5.2 General Usage

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

- **Trolling Motors:** Provides reliable and long-lasting power for marine applications.

- **RVs and Boats:** Offers a compact and lightweight power solution for recreational vehicles and watercraft.
- **Home Energy Storage:** Suitable for backup power or solar off-grid systems.
- **Golf Carts:** Delivers efficient power for extended use.



**Image Description:** A Dyness 12V 100Ah Mini LiFePO4 Battery is shown powering a trolling motor on a small boat, illustrating its application in marine environments.

## 6. MAINTENANCE

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

- Regularly check terminal connections for tightness and corrosion.
- Keep the battery clean and dry.
- Avoid exposing the battery to extreme temperatures outside its operating range.
- Store the battery in a cool, dry place if not in use for extended periods.

### 6.1 Low-Temperature Protection

The battery features automatic low-temperature protection:

- Charging automatically disconnects when the cell temperature drops below 32°F (0°C).
- Discharging cut-off temperature is -4°F (-20°C).
- Charging resumes at 41°F (5°C).

## LOW-TEMPERATURE CUT-OFF PROTECTION

Intelligently cut off charging and discharging



**Image Description:** An illustration of the Dyness 12V 100Ah Mini LiFePO4 Battery in a snowy environment, detailing its low-temperature protection features: discharging off below -4°F (-20°C), charging off below 32°F (0°C), and charging recovery above 41°F (5°C).

## 7. TROUBLESHOOTING

The advanced BMS provides comprehensive protection. If you experience any issues, check the following:

- **No Power Output:** Check terminal connections, ensure the battery is charged, and verify no short circuits are present. The BMS may have activated a protection mode.
- **Charging Issues:** Ensure the charger is compatible with LiFePO4 batteries and operating within the specified voltage and current ranges (Charge Voltage: 14.2V-14.6V, Charge Current: 5A-50A). Check battery temperature for low-temperature cut-off.
- **Overheating:** Ensure adequate ventilation around the battery. The BMS will shut down if temperatures exceed safe limits.

For persistent issues, refer to the user manual or contact Dyness customer support.



**Image Description:** A visual representation of the advanced Battery Management System (BMS) within the Dyness LiFePO4 Battery, highlighting its 100% full protections against overcharge, over-discharge, over-current, and short circuit.

## 8. SPECIFICATIONS

Attribute	Value
Model	AR1.2-MINI TM
Nominal Voltage	12.8 Volts
Nominal Capacity	100Ah
Nominal Energy	1280Wh
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
Max Discharge Current	100A
Max Charge Current	50A

Attribute	Value
Charge Voltage Range	14.2V-14.6V
Discharging Cut-off Voltage	10V
Low-Temp Charge Cut-off	32°F (0°C)
Low-Temp Discharge Cut-off	-4°F (-20°C)
Cycle Life	4000+ Cycles @ 100% DOD, 6000+ @ 80% DoD
Lifespan	Up to 10 years
Item Weight	21.3 pounds
Product Dimensions	10.23 x 6.61 x 8.22 inches
Waterproof Rating	IP65

## 9. WARRANTY AND SUPPORT

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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.

## REASSURING AFTER-SALES GUARANTEE



Own  
Factory



U.S.Local  
Warehouse



Service  
Hotline



High  
Quality



Respond  
within24hrs

**Image Description:** A customer support team is depicted, symbolizing Dyness's commitment to reassuring after-sales guarantee, including local warehouses, service hotlines, high quality, and responses within 24 hours.