Dyness AR1.2-BT

Dyness 12V 100Ah Bluetooth LiFePO4 Battery User Manual

Model: AR1.2-BT

1. Introduction

This manual provides essential information for the safe and efficient use of your Dyness 12V 100Ah Bluetooth LiFePO4 Battery. This deep cycle lithium battery is designed for various applications including RV camping, home solar systems, and off-grid power solutions. Please read this manual thoroughly before installation and operation.

Image 1.1: Dyness 12V 100Ah Bluetooth LiFePO4 Battery

2. Safety Information

WARNING: RISK OF FIRE, EXPLOSION, or BURN.

- Do not short circuit the battery terminals.
- Do not immerse the battery in water or expose it to excessive heat.
- Do not disassemble, crush, or puncture the battery.
- Use only compatible LiFePO4 chargers.
- Ensure proper ventilation during charging and discharging.
- Keep out of reach of children.

Always wear appropriate personal protective equipment (PPE) when handling batteries.

3. Product Overview

3.1 Key Features

- **Real-Time Monitoring via Bluetooth 5.0:** Monitor voltage, current, capacity, and system performance via the "Dyness" app within 10 meters.
- **Long Lifespan:** 4000+ deep cycles with A+ Grade LiFePO4 cells, offering up to 10 years of service life.
- **Integrated 100A BMS:** Provides comprehensive protection against overcharging, over-discharging, over-current, overheating, and short circuits. Includes low-temperature cut-off protection.
- **Expandable Energy Storage:** Can be expanded up to 4S4P with 16 batteries, forming a 51.2V 400Ah power system (Max. 20.48kWh).
- **Lightweight and Compact:** Significantly lighter and smaller than traditional lead-acid batteries.

Image 3.1: Real-time monitoring via Bluetooth 5.0

Image 3.2: Dyness Intelligent 100A BMS with 20+ protections

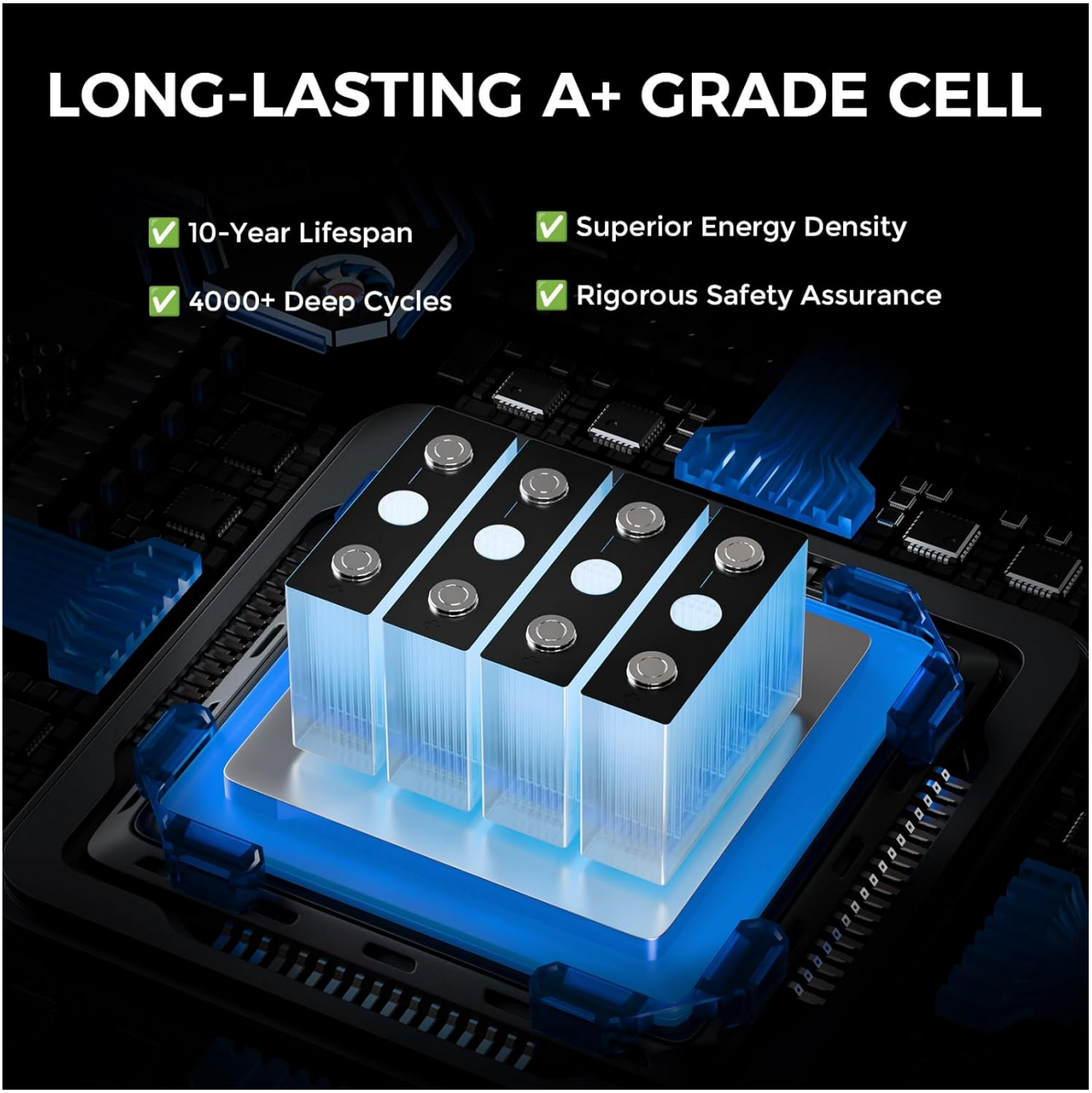

Image 3.3: Long-lasting A+ Grade Cells for durability

3.2 What's in the Box

- 1 x Dyness 12V 100Ah Bluetooth LiFePO4 Battery (Model AR1.2-BT)
- M8 Terminal Bolts
- User Manual

3.3 Product Video Overview

Your browser does not support the video tag.

Video 3.1: Dyness 12V 100Ah Group 31 Bluetooth Lithium Battery overview, demonstrating unboxing, M8 terminals, user manual, Bluetooth app connection, dimensions, waterproof test, and portability.

4. Setup

4.1 Installation

1. **Unpacking:** Carefully remove the battery from its packaging. Inspect for any damage.
2. **Terminal Connection:** Connect your cables to the M8 terminals. Ensure connections are tight and secure to prevent arcing and overheating. The M8 terminals are standard for easy installation.
3. **Series and Parallel Connections:** The Dyness 12.8V 100Ah battery can be connected in series (up to 4S) and parallel (up to 4P) for a maximum system of 51.2V 400Ah (20.48kWh). Consult the detailed wiring diagrams in the included user manual for specific configurations.
4. **Mounting:** Secure the battery in a well-ventilated area, away from direct sunlight, heat sources, and flammable materials.

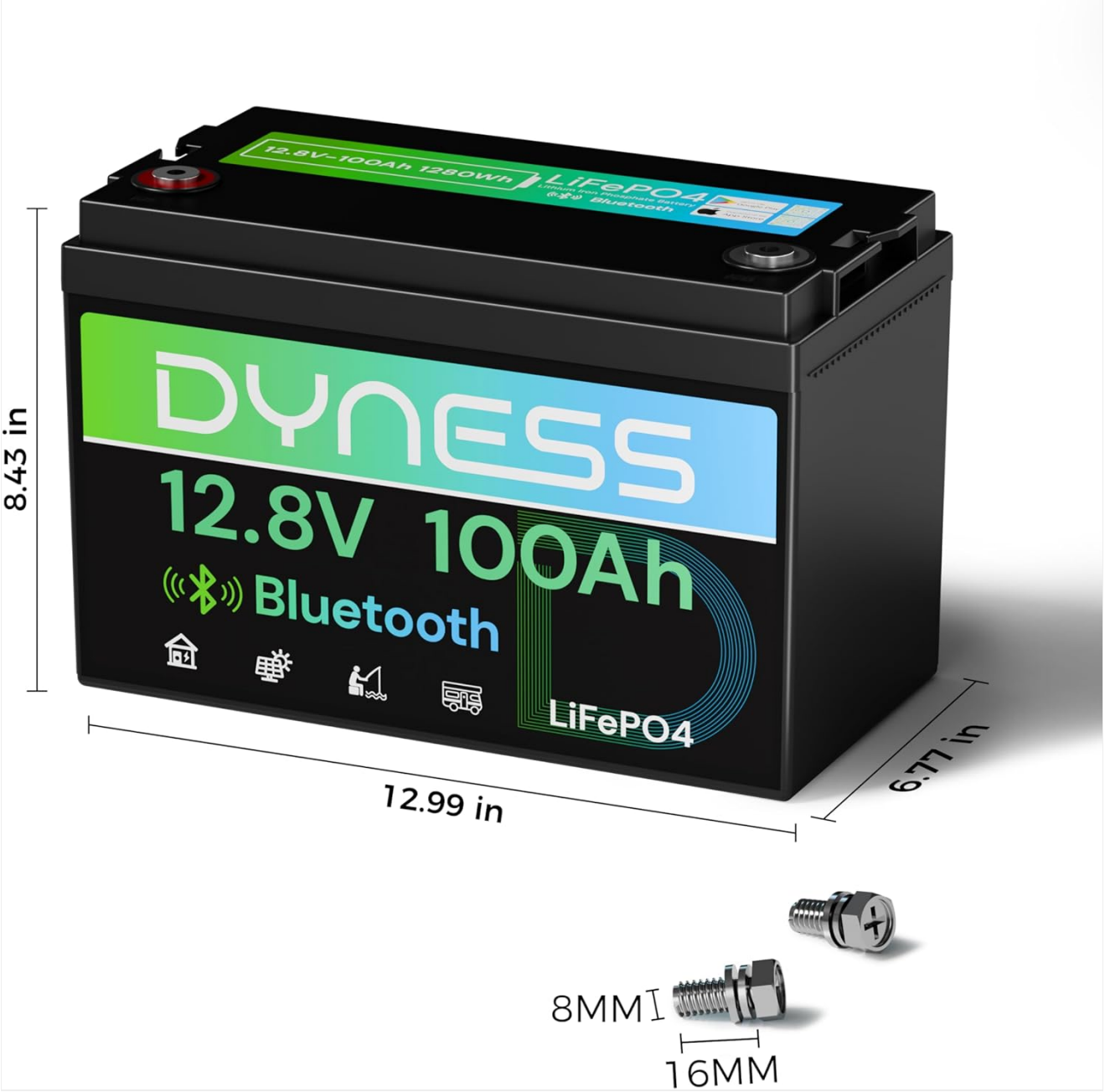

Image 4.1: Battery dimensions (12.99"W x 6.77"D x 8.43"H) and M8 terminal details.

4.2 Initial Charging

It is recommended to fully charge the battery before its first use. Use a LiFePO4-specific charger. For optimal battery health, recharge at 0.2C (20A for a 100Ah battery).

5. Operating Instructions

5.1 Bluetooth App Monitoring

The Dyness battery features Bluetooth 5.0 for real-time monitoring. Download the "Dyness" app from your smartphone's app store. Once installed, open the app and connect to your battery. The app allows you to monitor:

- Voltage (V)
- Current (A)
- State of Charge (SOC %)
- Capacity (Ah)
- Temperature (°F/°C)
- Charge and Discharge State
- Alarm and Protection Status

Ensure your device is within 10 meters of the battery for a stable Bluetooth connection.

Image 5.1: Dyness App interface for monitoring battery status.

5.2 Low-Temperature Protection

The integrated Battery Management System (BMS) includes low-temperature protection:

- Charging automatically disconnects when the battery temperature drops below 32°F (0°C).
- Charging resumes when the temperature rises to 41°F (5°C).
- Power output automatically cuts off at -4°F (-20°C) to prevent cell damage.

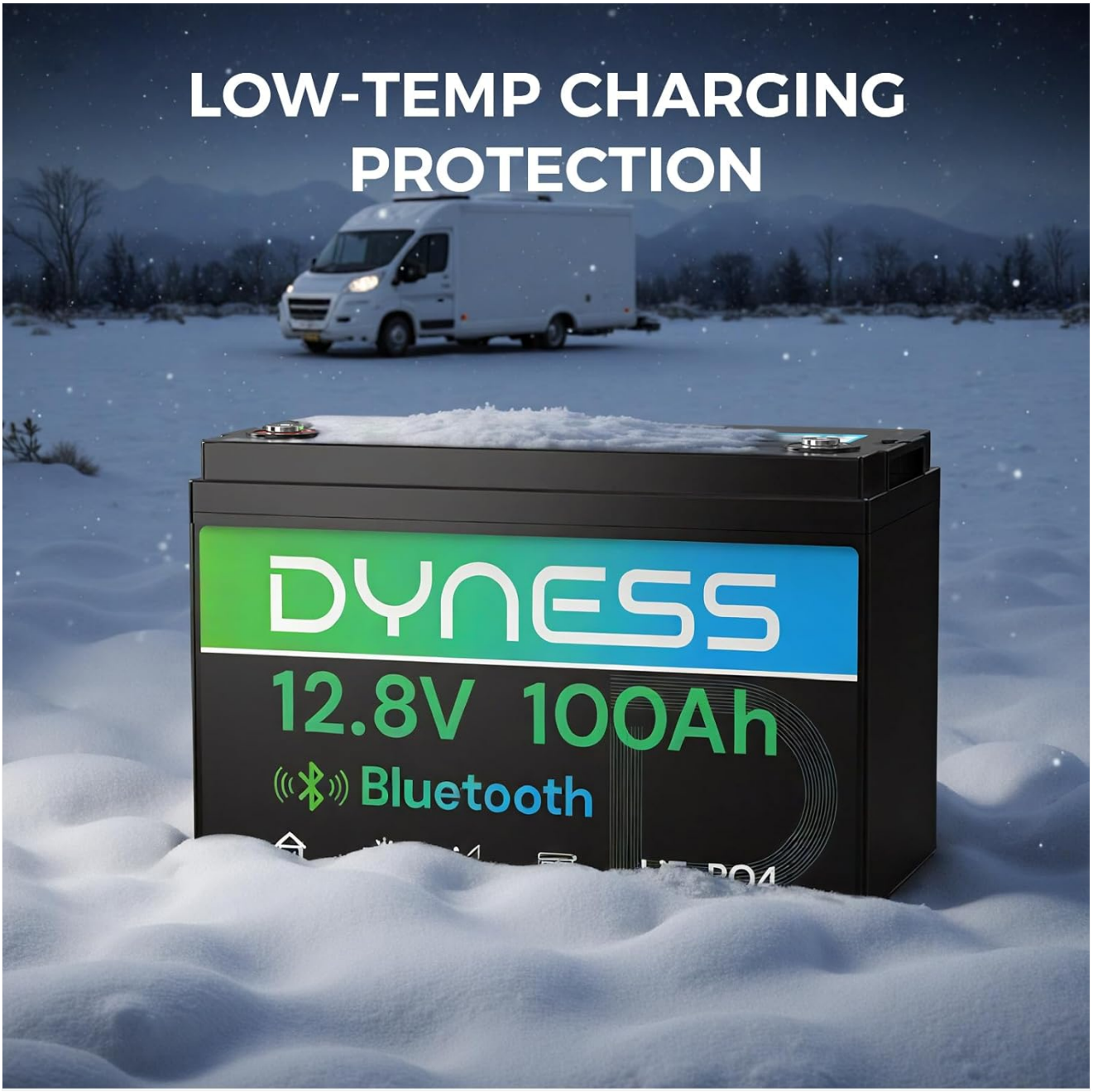

Image 5.2: Battery operating in cold conditions with low-temperature protection.

6. Maintenance

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean as necessary.
- **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.
- **Charging:** Always use a charger specifically designed for LiFePO4 batteries. Avoid overcharging or deep discharging to prolong battery life.
- **Cleaning:** Keep the battery casing clean and free of dust and debris. Use a dry cloth for cleaning.

7. Troubleshooting

If you encounter issues with your Dyness LiFePO4 battery, consider the following:

- **Battery Not Charging:** Verify charger compatibility and connection. Check the battery temperature; charging

is disabled below 32°F (0°C).

- **No Power Output:** Check all cable connections for tightness. Ensure the battery is sufficiently charged. The BMS may have activated a protection mode (e.g., low temperature, over-discharge). Refer to the Dyness app for protection status.
- **Bluetooth Connection Issues:** Ensure your smartphone is within 10 meters of the battery. Restart the app and try reconnecting.
- **Unusual Behavior:** If the battery exhibits unusual heat, smell, or sound, immediately disconnect it from all loads and charging sources and contact Dyness customer support.

For further assistance, utilize the diagnostic tools and help center within the Dyness app or contact customer support.

8. Specifications

Specification	Value
Brand	Dyness
Model	AR1.2-BT
Battery Capacity	100 Amp Hours
Nominal Voltage	12.8V
Product Dimensions (D x W x H)	6.77"D x 12.99"W x 8.43"H
Item Weight	25.3 pounds
Terminal Type	M8 Terminal
Automotive Fit Type	Universal Fit
Max. Series Connection	4S
Max. Parallel Connection	4P
Low-Temp Charge Cut-off	32°F (0°C)
Low-Temp Discharge Cut-off	-4°F (-20°C)

9. Warranty and Support

Dyness provides professional technical support and online customer service with fast response within 24 hours. If you have any product-related issues or questions, do not hesitate to contact the Dyness support team directly. This product may be eligible for additional protection plans. Please refer to your purchase documentation for details on available warranty and service options.

Related Documents - AR1.2-BT

	Dyness DL5.0C User Manual - Lithium Battery Module User manual for the Dyness DL5.0C Lithium Iron Phosphate Battery Energy Storage System. Provides detailed information on product specifications, installation, configuration, usage, maintenance, and troubleshooting.
	Dyness DL5.0C Pro User Manual - Battery Module 51.2V/100Ah User manual for the Dyness DL5.0C Pro Lithium Iron Phosphate Battery Energy Storage System. This document provides detailed information on product specifications, installation procedures, operation, maintenance, troubleshooting, and safety precautions.
	Dyness DL5.0 User Manual: Installation, Operation, and Troubleshooting Guide Comprehensive user manual for the Dyness DL5.0 Lithium Iron Phosphate Battery Module (51.2V/100Ah). Covers product specifications, safety precautions, installation procedures, usage guidelines, maintenance, and troubleshooting for energy storage systems.
	Dyness Stack100 User Manual User manual for the Dyness Stack100 High-Voltage Battery System, covering product specifications, installation, maintenance, and safety guidelines.
	Dyness DL5.0C User Manual - 51.2V/100Ah Battery Module This user manual provides detailed information on the Dyness DL5.0C Lithium Iron Phosphate Battery Module, including specifications, installation procedures, operation guidelines, maintenance, and troubleshooting tips for energy storage systems.
	Dyness B4850 Battery Module: User Manual, Specifications, Installation & Troubleshooting Comprehensive user manual for the Dyness B4850 Lithium Iron Phosphate Battery Energy Storage System. Covers specifications, installation, operation, maintenance, and troubleshooting.