

ECO-WORTHY 300AH 12V

ECO-WORTHY 12V 300Ah LiFePO4 Bluetooth Battery User Manual

Model: 300AH 12V | Brand: ECO-WORTHY

1. INTRODUCTION

Thank you for choosing the ECO-WORTHY 12V 300Ah LiFePO4 Bluetooth Battery. This battery is designed for reliable power storage in various applications, including RVs, solar power systems, and other off-grid setups. It features advanced Bluetooth monitoring, a robust 200A Battery Management System (BMS), and low-temperature protection for enhanced safety and longevity. Please read this manual thoroughly before installation and operation to ensure proper use and maximum performance.

2. SAFETY INFORMATION

Always prioritize safety when handling batteries. Failure to follow these instructions can result in serious injury or damage to the battery and connected equipment.

- **Do not use this battery to start a vehicle.** It is designed for deep cycle applications, not engine starting.
- Ensure proper ventilation during charging and discharging to prevent heat buildup.
- Avoid short-circuiting the battery terminals. Use insulated tools.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves, when working with batteries.
- Keep the battery away from open flames, heat sources, and flammable materials.
- Do not disassemble, puncture, or modify the battery.
- Charge the battery only with a compatible LiFePO4 charger.
- Keep out of reach of children.

Témoigner d'une ère plus sûre pour les batteries lithium

1.0

Protection BMS

2.0

Boîtier ignifugé

3.0

Alarme sonore

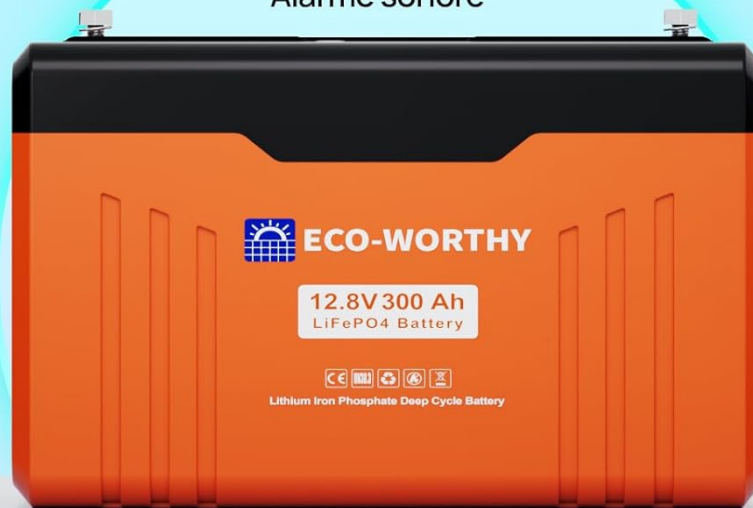


Image: The ECO-WORTHY LiFePO4 battery emphasizing its safety features, including BMS protection, a fireproof casing, and an audible alarm system for a safer user experience.

3. PRODUCT OVERVIEW

Key Features:

- **Intelligent LED Display:** Unique SOC (State of Charge) and status indicator lights for quick detection of battery level and condition. Easier troubleshooting with automatic alarms for abnormal states, which can be deactivated via the APP or control panel.
- **Bluetooth Real-time Monitoring:** Monitor various battery data (SOC, voltage, current, capacity) in real-time via the "ECO-WORTHY" APP. The APP supports 9 languages. Bluetooth connection range: within 25m in a straight line without obstacles.
- **200A BMS with Low-Temperature Cutoff:** Integrated Battery Management System provides protection against over-voltage, under-voltage, over-current, high temperature, short circuits, and low-temperature cutoff. Charging stops at -7°C , discharging stops below -20°C , and charging resumes at $\geq 0^{\circ}\text{C}$, preventing damage and extending battery life.

- **Scalable Energy Storage:** Supports up to 4 batteries in parallel and 2 in series (4P2S), allowing for a maximum energy storage of 30.72 kWh for stable power in home storage or complete solar kits.
- **Fireproof Casing and Metal Fixings:** Designed to contain fire and prevent swelling, enhancing overall safety.

Components:

- Positive (+) and Negative (-) Terminals
- Integrated LED Display Panel
- Power Button (for storage mode)
- Bluetooth Module (internal)

Écran LED intelligent, état en un coup d'œil



Image: A user observing the intelligent LED display on the ECO-WORTHY LiFePO4 battery, which projects State of Charge (SOC) and various status indicators for quick diagnostics.

4. SETUP

4.1 Initial Inspection

Upon receiving your battery, inspect it for any visible damage. If damage is found, contact customer support immediately.

4.2 Charging

Before first use, fully charge the battery using a compatible LiFePO4 charger. Ensure the charger's voltage and current settings are appropriate for a 12V LiFePO4 battery.

4.3 Connecting the Battery

- Connect the positive (+) terminal of the battery to the positive terminal of your load/charger.
- Connect the negative (-) terminal of the battery to the negative terminal of your load/charger.
- Ensure all connections are secure and tight to prevent resistance and overheating.

4.4 Parallel and Series Connection

This battery supports up to 4 batteries in parallel and 2 in series (4P2S) for increased capacity and voltage. When connecting multiple batteries:

- Use batteries of the same model, capacity, and age.
- Ensure all batteries are fully charged to the same voltage before connecting.
- Use appropriate cables and fuses for the combined current.
- For parallel connections, connect positive to positive and negative to negative.
- For series connections, connect the positive of one battery to the negative of the next.

4.5 Bluetooth APP Installation

Download the "ECO-WORTHY" APP from your smartphone's app store. Follow the in-app instructions to connect to your battery via Bluetooth for real-time monitoring.

Surveillance et contrôle via l'application Bluetooth

Oubliez le multimètre. Vérifiez votre batterie avec votre téléphone.



Image: The ECO-WORTHY LiFePO4 battery shown with a smartphone running the ECO-WORTHY app, demonstrating real-time Bluetooth monitoring capabilities, alongside a traditional multimeter for visual comparison.

5. OPERATING INSTRUCTIONS

5.1 Monitoring Battery Status

You can monitor the battery's State of Charge (SOC) and other parameters using two methods:

- **Integrated LED Display:** The display on the battery provides a quick visual indication of SOC (0-100%) and alerts for high/low temperature, over/under voltage, overcurrent, and BMS faults.
- **ECO-WORTHY APP:** For detailed real-time data, including voltage, current, capacity, and individual cell information, use the Bluetooth APP.

5.2 Storage Mode

The battery features a storage mode to minimize self-discharge during periods of inactivity, preserving battery life.

- **Activation:** Press and hold the power button for 3 seconds to activate storage mode.
- **Deactivation:** Press the power button once to exit storage mode.

Autodécharge économe en batterie

Mode normal

Mode de stockage

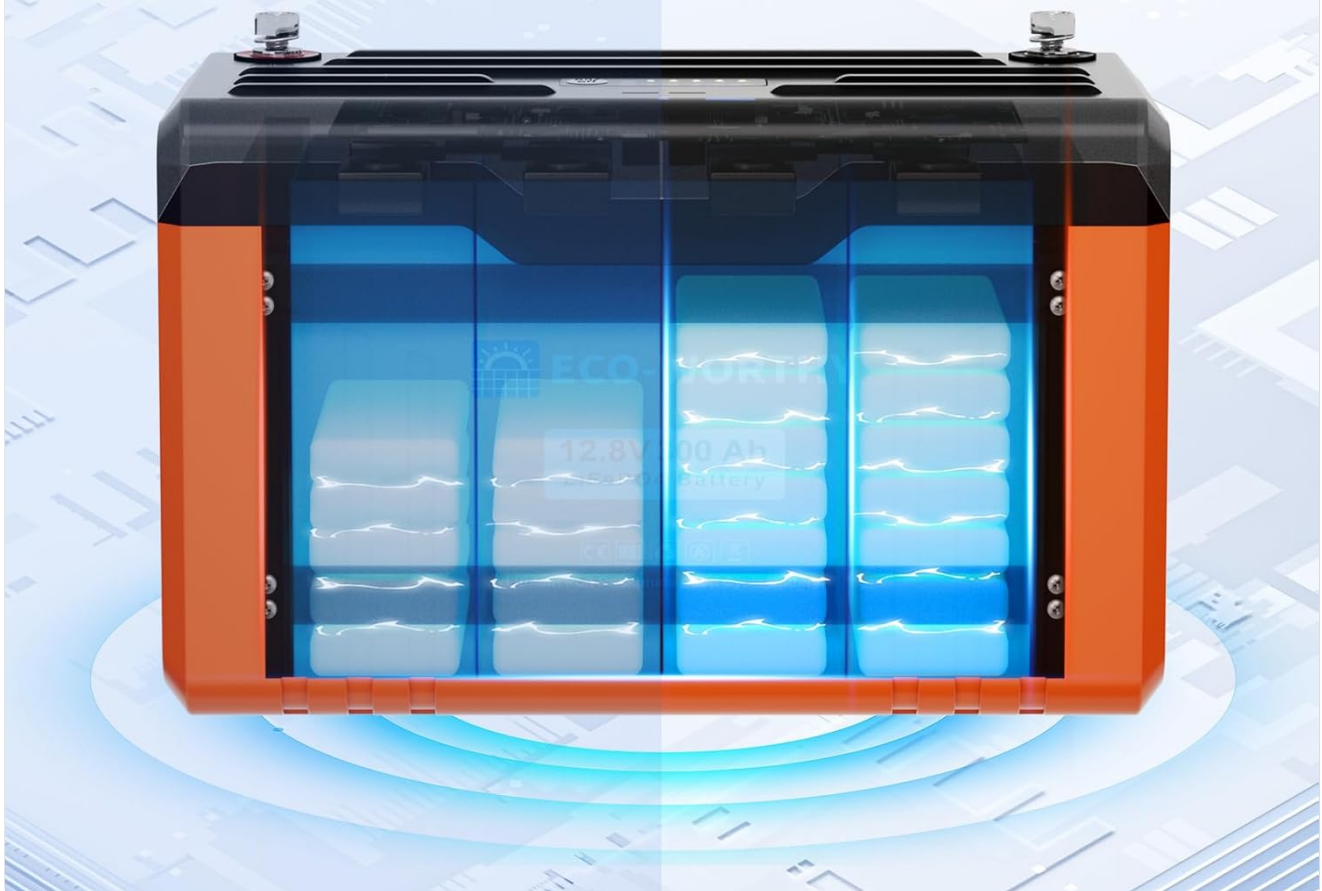


Image: A cutaway diagram of the ECO-WORTHY LiFePO4 battery, visually comparing its internal state in 'Normal Mode' versus 'Storage Mode' to highlight the reduced self-discharge feature.

6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your ECO-WORTHY LiFePO4 battery.

- **Regular Inspection:** Periodically check the battery terminals for corrosion or loose connections. Clean terminals if necessary.
- **Cleaning:** Wipe the battery casing with a dry, clean cloth. Do not use solvents or abrasive cleaners.
- **Charging:** Always ensure the battery is charged within its specified voltage and temperature ranges.
- **Storage:** For long-term storage, activate the storage mode and store the battery in a cool, dry place, away from direct sunlight and extreme temperatures. It is recommended to store the battery at approximately 50% SOC.

Boîtier ignifugé et fixation métallique

Contenir l'incendie et prévenir le gonflement



Image: A detailed cutaway view of the ECO-WORTHY LiFePO4 battery, illustrating its robust fireproof casing and internal metal fixings designed for enhanced safety and structural integrity.

7. TROUBLESHOOTING

The integrated BMS and intelligent display provide alerts for various conditions. Refer to the table below for common issues and their solutions.

Indicator/Symptom	Possible Cause	Solution
High Temp (H temp) alarm	Battery operating in high temperature environment.	Move battery to a cooler location or improve ventilation. Allow battery to cool down.

Indicator/Symptom	Possible Cause	Solution
Low Temp (L temp) alarm	Battery operating in low temperature environment. Charging/discharging may be inhibited.	Move battery to a warmer environment. Charging resumes at $\geq 0^{\circ}\text{C}$, discharging above -20°C .
Over Voltage (OVP) alarm	Charging voltage is too high.	Check charger settings and ensure it is compatible with LiFePO4 batteries. Disconnect charger if necessary.
Under Voltage (UVP) alarm	Battery is deeply discharged.	Charge the battery immediately. Disconnect loads to prevent further discharge.
Over Current (OCP) alarm	Load drawing too much current.	Reduce the load or check for short circuits in the system.
BMS Fault (BMS fault) alarm	Internal BMS error.	Disconnect all connections and contact ECO-WORTHY customer support. Do not attempt to repair.
Battery not charging	Charger issue, low temperature, or BMS protection active.	Check charger functionality. Ensure battery temperature is above 0°C . Check for OVP or BMS fault alarms.
Battery not discharging	Load issue, low temperature, or BMS protection active.	Check load connections. Ensure battery temperature is above -20°C . Check for UVP or OCP alarms.

Protection contre les basses températures et coupure

Arrête automatiquement la charge à une température de -7°C pour éviter tout dommage.



Image: The ECO-WORTHY LiFePO4 battery depicted in a winter setting, highlighting its low-temperature protection capabilities, including automatic cutoff for charging at -7°C , discharging at -20°C , and charging resumption at 0°C .

8. SPECIFICATIONS

Specification	Value
Brand	ECO-WORTHY
Model Name	300AH 12V
Battery Type	Lithium Iron Phosphate (LiFePO4)
Nominal Voltage	12.8 Volts
Capacity	300 Ampere-hours (Ah)

Specification	Value
Energy Storage	3840 Wh
BMS Current	200A
Max Cycles	Up to 15,000 cycles
Dimensions (L x W x H)	41.4 x 21.5 x 26 cm (16.3 x 8.5 x 10.2 inches)
Weight	27.4 Kilograms (60.4 lbs)
Recommended Uses	RV, Power Tool, Solar System
Parallel/Series Support	Up to 4P2S (Max 30.72 kWh)



Image: The ECO-WORTHY LiFePO4 battery showcasing its compact dimensions (41.4cm length, 21.5cm width, 26cm height) and weight (27.4kg), positioned in front of an RV to illustrate its suitability for mobile applications.

9. WARRANTY AND SUPPORT

9.1 Warranty

The ECO-WORTHY 12V 300Ah LiFePO4 Bluetooth Battery comes with a **3-year manufacturer's warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

9.2 Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact ECO-WORTHY customer support. Our specialized support team is available to help you.

- **Online Support:** Visit the official ECO-WORTHY website for FAQs, support resources, and contact forms.
- **Email Support:** Refer to your product packaging or the ECO-WORTHY website for the dedicated support email address.