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> XZNY Compact 12V 12Ah LiFePO4 Battery User Manual

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1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your XZNY Compact 12V 12Ah LiFePO4 Battery. Please read these instructions carefully before installation, operation, or maintenance to ensure optimal performance and longevity of your battery.



Image 1: The XZNY Compact 12V 12Ah LiFePO4 Battery.

2. SAFETY INFORMATION

Your XZNY LiFePO₄ battery is designed with safety in mind, incorporating an advanced Battery Management System (BMS). Adhere to the following safety guidelines:

- **BMS Protection:** The built-in BMS protects against overcharging, overdischarging, overcurrent, short circuits, and extreme temperatures (both low and high). In such events, the BMS will automatically cut off power to prevent damage or accidents.
- **Proper Handling:** Always handle the battery with care. Avoid dropping or subjecting it to severe impacts.
- **Ventilation:** Ensure adequate ventilation around the battery during charging and discharge, although LiFePO₄ batteries produce minimal gas.
- **Avoid Short Circuits:** Do not short-circuit the battery terminals. Use appropriate tools and ensure connections are secure.
- **Environmental Conditions:** Operate and store the battery within the specified temperature ranges.
- **Application Specifics:** This battery is not suitable for ATVs and cannot be used as a starting battery for vehicles. If used for a mobility scooter, verify sufficient installation space.

3. PRODUCT OVERVIEW

The XZNY Compact 12V 12Ah LiFePO₄ Battery is a high-performance, rechargeable deep cycle battery designed for various applications. It offers significant advantages over traditional lead-acid batteries.

Key Features:

- **Compact Design:** Similar dimensions to a 9Ah lead-acid battery, but with triple the available energy (153Wh vs 54Wh).
- **Longer Lifespan:** Utilizes Grade A LiFePO₄ cells, offering over 4000 charge cycles, significantly longer than lead-acid batteries (typically 500 cycles). Expected lifespan of up to 10 years.
- **Low Self-Discharge:** Maintains 95% of its capacity even after 2000 cycles, with a low self-discharge rate.
- **Advanced BMS:** Integrated Battery Management System for comprehensive protection (overcharge, overdischarge, overcurrent, short circuit, temperature).
- **Wide Application Range:** Suitable for UPS systems, ham radio, lighting, solar projects, deer feeders, gate openers, tennis ball machines, fish finders, ice fishing power, marine lighting, and water pumps.



WIDE APPLICATION



Image 2: Various applications for the XZNY LiFePO4 battery.

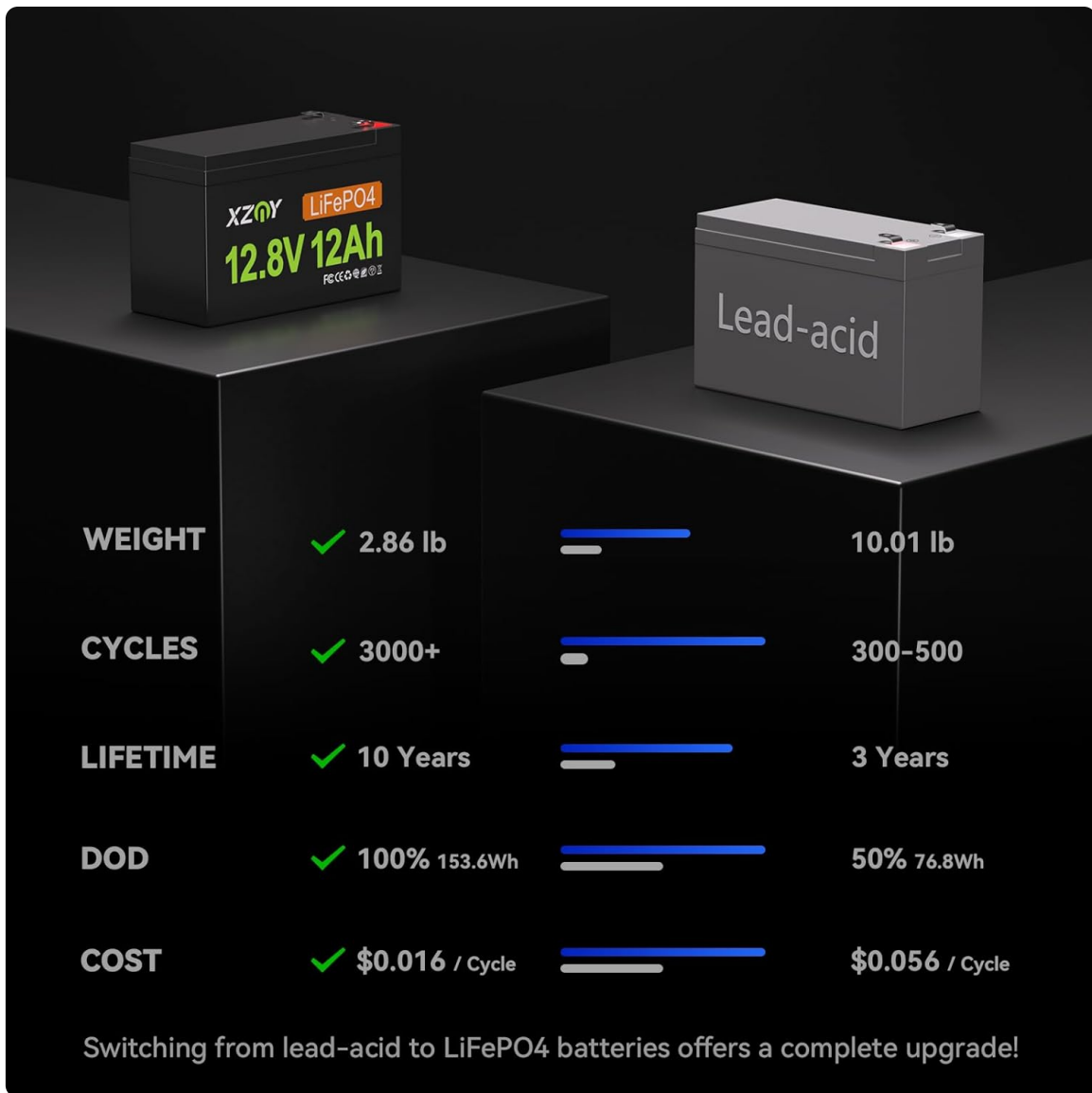


Image 3: Performance comparison between XZNY LiFePO4 and lead-acid batteries.

4. SETUP

4.1 Unpacking and Inspection

Upon receiving your battery, carefully unpack it and inspect for any visible damage. Ensure all included accessories, such as terminal hardware, are present.

4.2 Charging Instructions

The battery may not be fully charged upon arrival. It is recommended to fully charge the battery before its first use.

- **Recommended Charger:** Use a 12V (14.6V) 2A LiFePO4 compatible charger.
- **Charging Times:**
 - With a 10A charger: Approximately 1.2 hours for a full charge.
 - With a 2A charger: Approximately 6 hours for a full charge.



Image 4: Charging recommendations and times.

4.3 Connections (Series and Parallel)

The XZNY 12V 12Ah LiFePO4 battery features F2 terminals for connections. It supports scalability for higher voltage or capacity requirements:

- **Series Connection:** Up to 4 batteries can be connected in series to achieve higher voltage (e.g., 24V, 36V, 48V). Ensure all batteries have the same voltage and capacity before connecting in series.
- **Parallel Connection:** Up to 4 batteries can be connected in parallel for increased capacity. Ensure all batteries have the same voltage and capacity before connecting in parallel.
- **Important:** Always use appropriate cables and connectors. Consult a professional if you are unsure about series or parallel configurations.

EXCELLENT SCALABILITY

UP TO 4 IN SERIES AND 4 IN PARALLEL

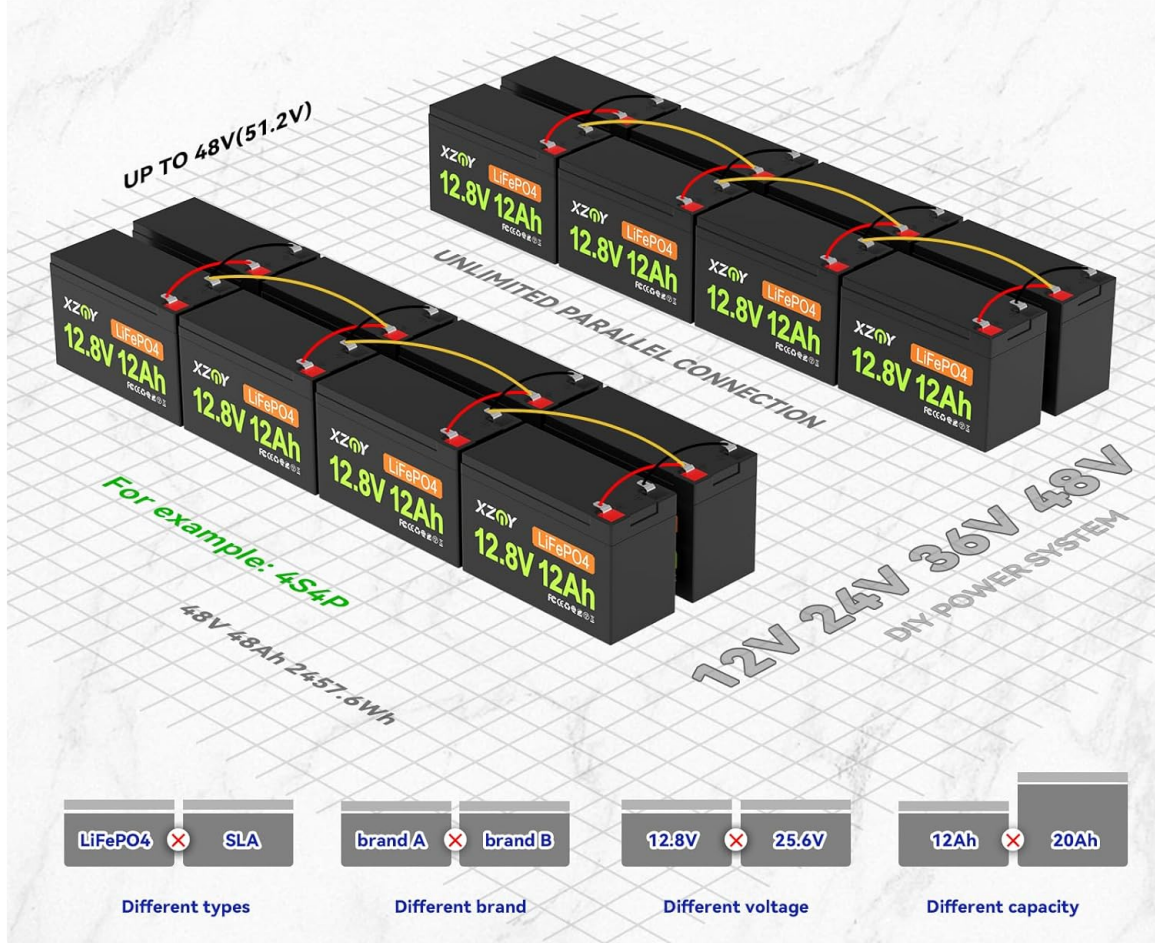


Image 5: Scalability options for series and parallel connections.

5. OPERATING INSTRUCTIONS

The XZNY 12V 12Ah LiFePO4 battery is designed for deep cycle applications and provides stable power output.

- **UPS System Compatibility:** This battery is perfectly compatible with UPS devices ranging from 1200VA to 1500VA.
- **Current Limits:** The battery has a maximum continuous charging and discharging current of 20A. The peak discharge current is 50A for 5 seconds. Ensure your application's current draw does not exceed these limits.
- **Temperature Range:** Operate the battery within its specified temperature range to ensure optimal performance and safety. Refer to the specifications section for details.



Image 6: BMS current ratings and load power.

6. MAINTENANCE

One of the key advantages of LiFePO4 batteries is their minimal maintenance requirements.

- **No Regular Maintenance:** Unlike lead-acid batteries, the XZNY LiFePO4 battery does not require regular maintenance such as watering or equalization charges.
- **Cleaning:** Keep the battery terminals clean and free from corrosion. Use a dry cloth to wipe the battery casing.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% of its capacity and stored in a cool, dry place away from direct sunlight and extreme temperatures.



Image 7: High cycle life and Grade A cells contribute to low maintenance.

7. TROUBLESHOOTING

The built-in BMS is designed to prevent most common battery issues by automatically protecting the battery. If you experience problems, consider the following:

- **No Power Output:** If the battery is not providing power, the BMS may have activated a protection mode (e.g., due to overdischarge, overcurrent, or temperature). Try charging the battery with a compatible charger.
- **Battery Not Charging:** Ensure your charger is specifically designed for LiFePO4 batteries and is functioning correctly. Check all connections. If the battery is severely over-discharged, it might require a specific 'wake-up' procedure, which may involve a specialized charger or contacting support.
- **Reduced Performance:** Ensure the battery is fully charged. Check for proper connections and ensure the load is within the battery's specified limits.

If issues persist, refer to the Warranty and Support section for assistance.

8. SPECIFICATIONS

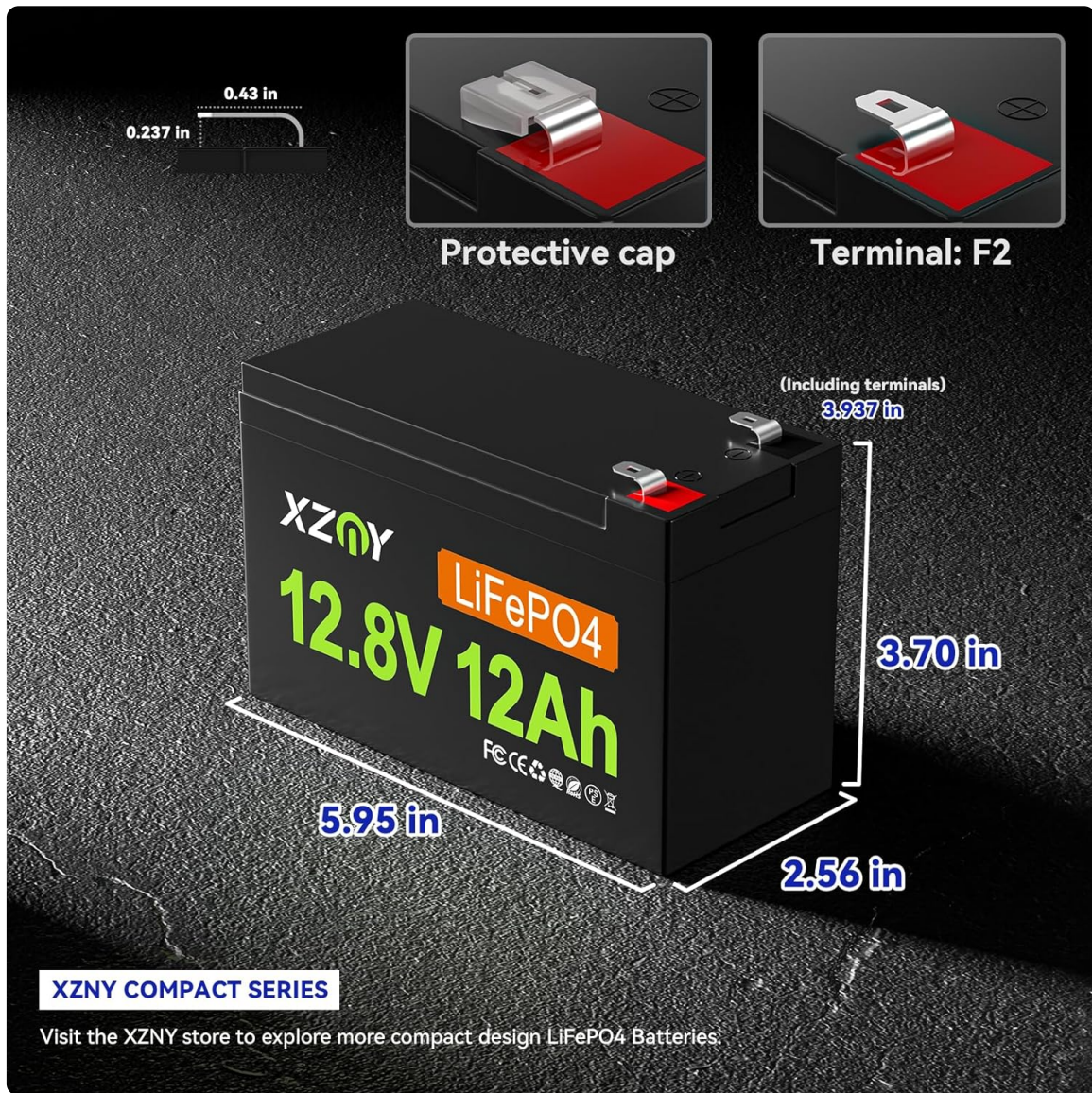


Image 8: Physical dimensions and terminal type.

| Specification | Value |
|------------------------|---|
| Brand | XZNY |
| Model Number | Compact 12V 12Ah |
| Product Dimensions | 5.95 x 2.56 x 3.7 inches (5.95"D x 2.56"W x 3.7"H) |
| Item Weight | 2.75 pounds |
| Battery Type | LiFePO4 (Lithium Iron Phosphate) |
| Voltage | 12V (12.8V nominal) |
| Capacity | 12Ah |
| Max Charge Current | 20A (newly upgraded) |
| Max Discharge Current | 20A (newly upgraded) |
| Peak Discharge Current | 50A for 5 seconds |
| Terminal Type | F2 Terminal |
| Cycle Life | Over 4000 cycles |
| BMS Protection | Overcharging, Overdischarging, Overcurrent, Short Circuit, Low/High Temperature |
| Date First Available | October 21, 2023 |

9. WARRANTY AND SUPPORT

XZNY stands behind the quality of its products.

- **Warranty Period:** The XZNY Compact 12V 12Ah LiFePO4 Battery comes with a 3-year warranty.
- **Warranty Claims:** If you encounter any quality issues or failures within the 3-year warranty period, please contact the seller for assistance or a replacement battery.
- **Exclusions:** This warranty service does not cover damage caused by human factors or overloading. However, XZNY is committed to providing other after-sales solutions for such cases.
- **Customer Support:** For any questions, technical assistance, or support, please reach out to XZNY customer service through the platform where you purchased the product.

