PowerUrus S12100A

PowerUrus 12V 100Ah LiFePO4 Lithium Battery User Manual

Model: S12100A
Brand: PowerUrus

1. Product Overview

The PowerUrus 12V 100Ah LiFePO4 Lithium Battery is designed for reliable and long-lasting power in various applications. Featuring advanced LiFePO4 cell technology and a robust Battery Management System (BMS), this battery offers superior performance, safety, and an extended cycle life compared to traditional lead-acid batteries. Its smart app integration allows for convenient real-time monitoring of key battery parameters.



Figure 1: PowerUrus 12V 100Ah LiFePO4 Lithium Battery with smartphone app display.

2. What's in the Box

- 12V 100Ah LiFePO4 Battery

3. Setup and Installation

3.1 Physical Dimensions and Handling

The battery measures 6.8"D x 13"W x 8.5"H and weighs approximately 30.8 lbs. Its compact size and lightweight design make it easier to maintain, move, carry, and install compared to heavier lead-acid alternatives.

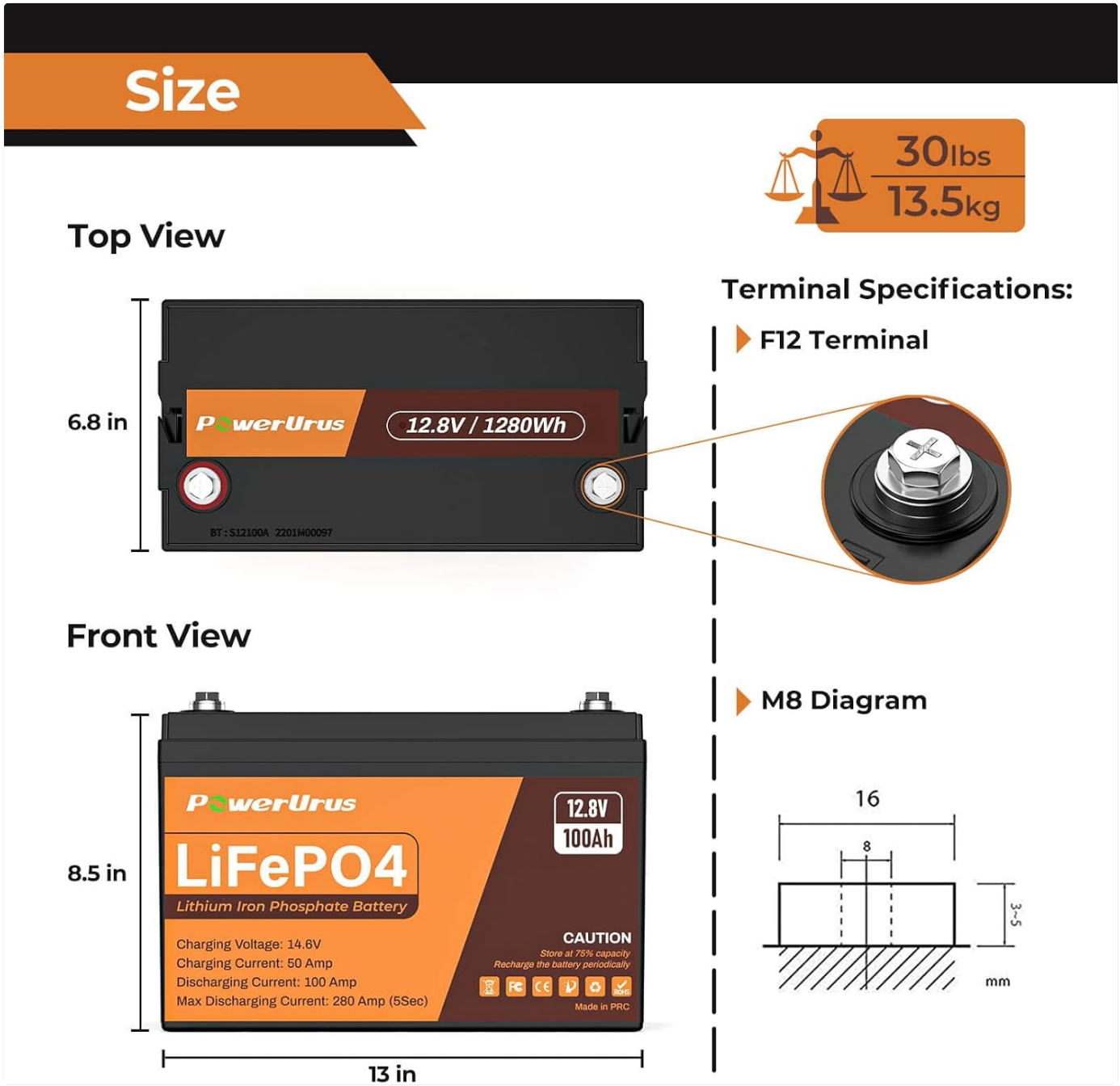


Figure 2: Top and front views of the battery with dimensions and terminal specifications (F12 Marine Terminal).

3.2 Series and Parallel Connections

The PowerUrus 12V 100Ah LiFePO4 battery can be connected in series or parallel to achieve higher capacity and voltage. It supports a maximum of 4 batteries in series and 4 in parallel. This flexibility allows for configurations up to 400Ah capacity and 51.2V voltage.



Figure 3: Illustration of various series and parallel connection configurations for flexible capacity extension.

3.3 Terminal Type

The battery is equipped with Marine Terminals (M8 Diagram), suitable for universal fit automotive applications.

4. Operating Instructions

4.1 Charging and Discharging

The battery can be continuously charged at 50 Amps and continuously discharged at 100 Amps. It is designed for 4000-8000 deep cycles at 100% Depth of Discharge (DOD), maintaining over 80% capacity. The design lifespan is up to 10 years.

4.2 Smart APP Monitoring

The PowerUrus battery features built-in WiFi technology and can be monitored via a smart app (e.g., "RoyPow Fish" app). This allows you to track battery level, state of charge, temperature, voltage, capacity, and protection warnings directly from your smartphone.



Figure 4: Smartphone displaying real-time battery status, including voltage, current, and temperature.



Figure 5: Steps to download the app, find the battery code, and successfully connect for monitoring.

4.3 Battery Management System (BMS)

The integrated 100A BMS protects the LiFePO4 battery from various conditions, including overcharge, over-discharge, over-current, short circuit, and over-temperature. This enhances safety and extends the battery's service life.



Figure 6: Visual representation of the various protections offered by the built-in BMS.

4.4 Low-Temperature Cut-off Protection

The battery automatically stops charging when the temperature is under 0°C (32°F) to prevent damage, ensuring longevity and safe operation in colder environments.



Figure 7: Illustration of the battery's low-temperature cut-off protection feature.

4.5 Auto-Balancing Function

The battery includes an auto-balancing function to ensure optimal performance and longevity of the cells, especially when connected in series or parallel.



Figure 8: Diagram illustrating the auto-balancing function across multiple battery cells.

5. Maintenance

The LiFePO4 battery is designed to be maintenance-free due to its no-memory effect and extremely low self-discharge rate. For optimal long-term storage, it is recommended to store the battery at 75% capacity and recharge periodically.

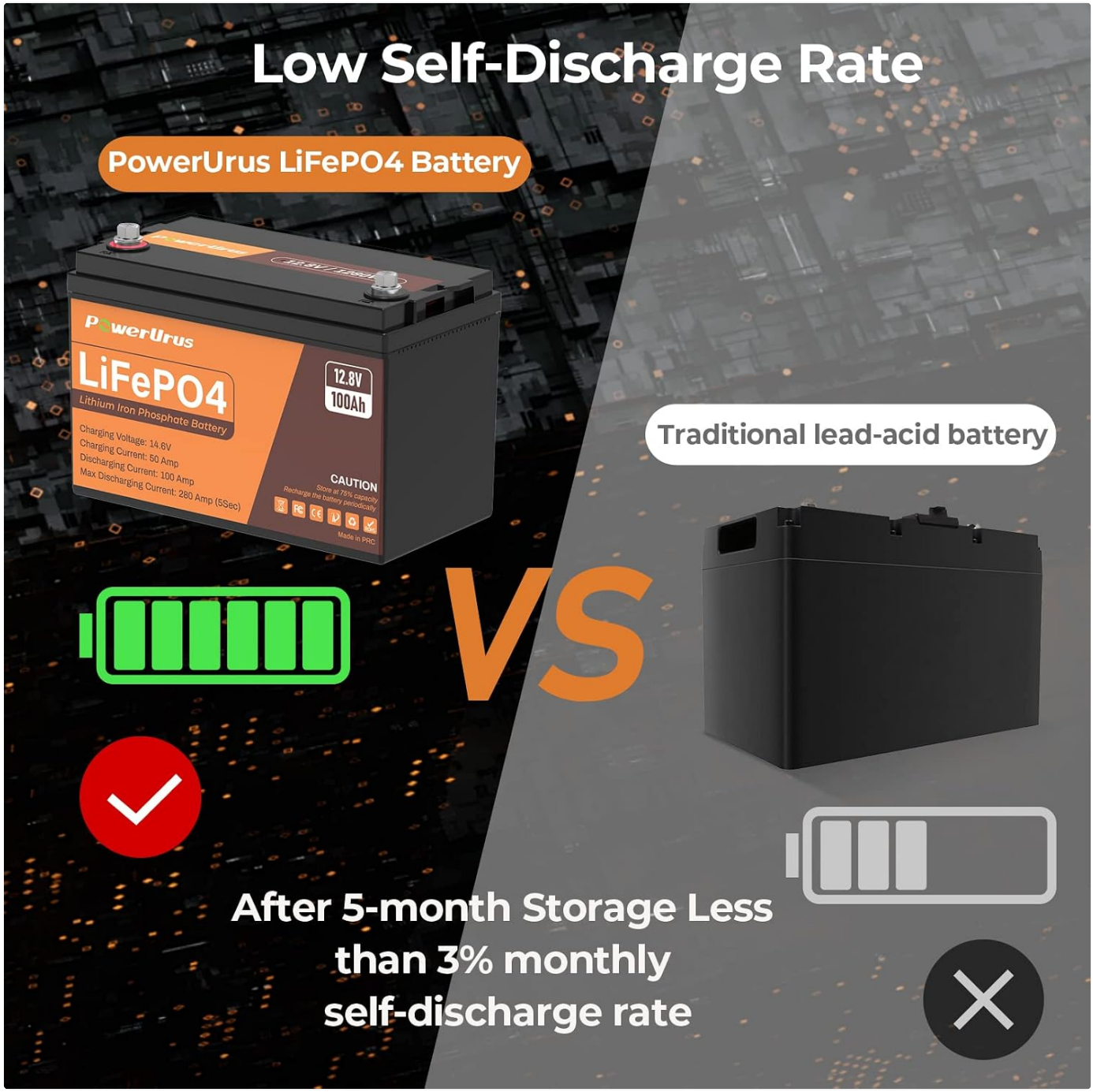


Figure 9: Comparison of PowerUrus LiFePO4 battery's low self-discharge rate versus traditional lead-acid batteries.

6. Troubleshooting

If the battery charger stops unexpectedly or you receive a "Cell over-volt protection" warning, check all connections to ensure they are properly torqued. The Battery Management System (BMS) may have triggered a protection mode. Allow the BMS to reset by disconnecting and reconnecting the charger. Refer to the smart app for specific warning messages and detailed battery status.

7. Specifications

Attribute	Value
Brand	PowerUrus

Model	12V 100Ah LiFePO4 Lithium Battery (S12100A)
Product Dimensions	6.8"D x 13"W x 8.5"H
Item Weight	30.8 pounds
Amperage	100 Amps
Terminal Type	Marine Terminal
Automotive Fit Type	Universal Fit
Battery Cells	4 A-grade Lithium Iron Phosphate
Cycle Life	4000-8000 Deep Cycles
BMS	Built-in 100A BMS
Monitoring	Smart APP (Wireless Real-Time Monitor)

8. Applications

The PowerUrus 12V 100Ah LiFePO4 battery is versatile and suitable for a wide range of applications, including:

- Trolling Motors
- RV & Campers
- Marine applications (Yachts, Boats)
- Solar & Off-Grid Systems
- Emergency Backup Power
- Motorized Wheelchairs

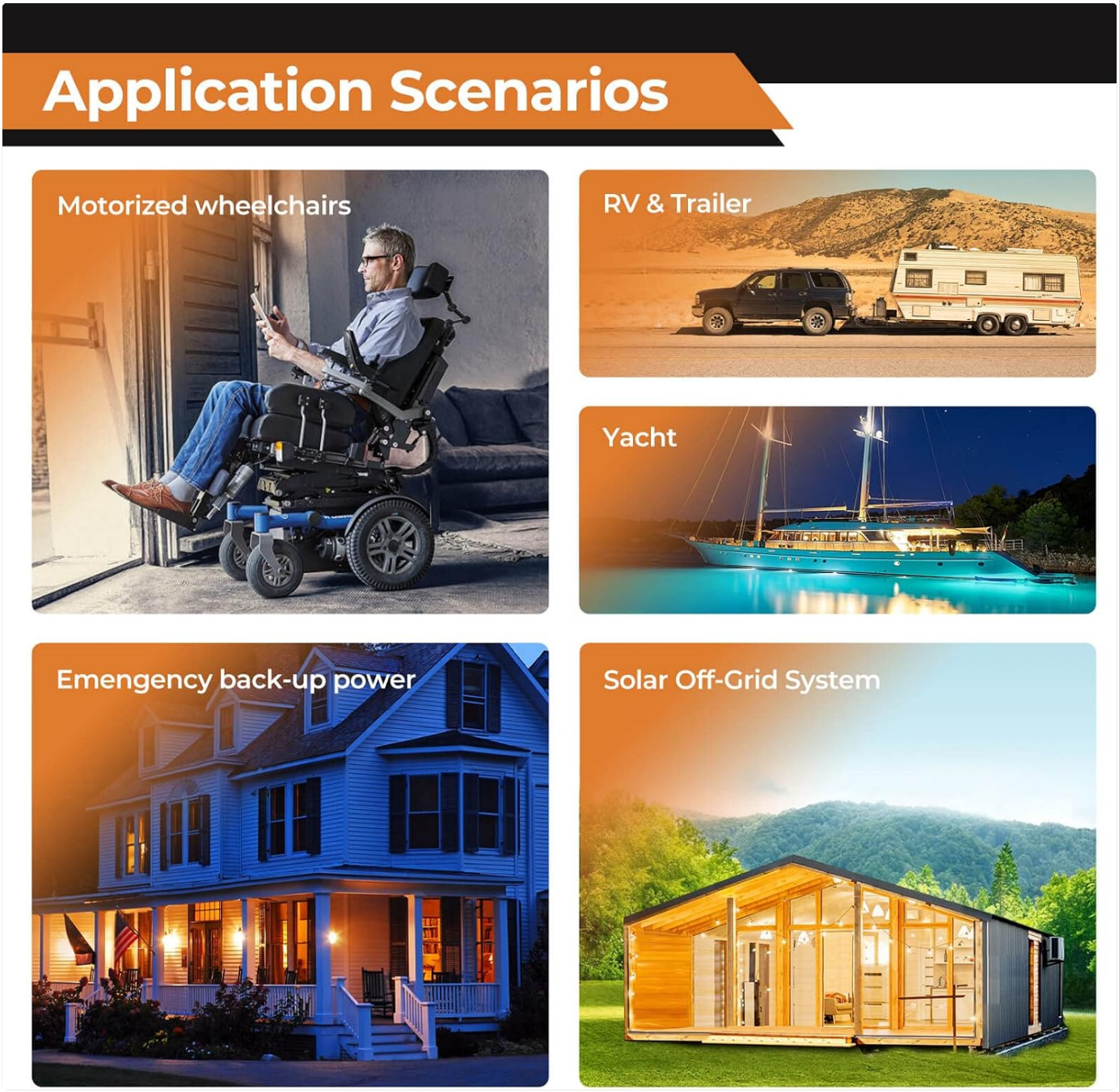


Figure 10: Examples of battery use in motorized wheelchairs, RVs, yachts, emergency backup, and solar off-grid systems.

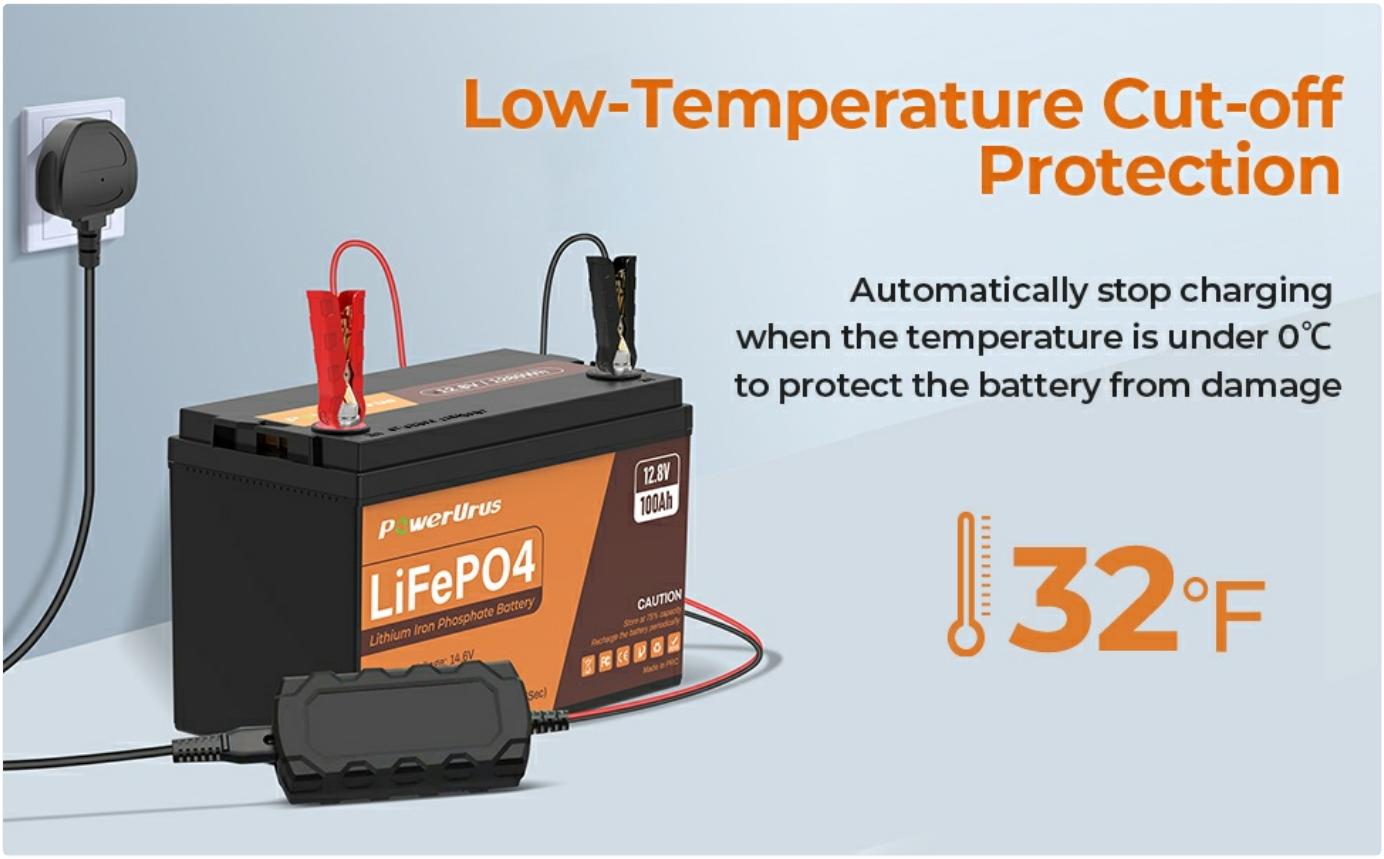


Figure 11: Further examples of battery applications in marine, power backup, off-grid, and RV & camper settings.

9. Warranty & Support

PowerUrus offers a 5-year warranty for this LiFePO4 battery. For any inquiries or support, please refer to the contact information provided in your product packaging or visit the official PowerUrus store on Amazon.



Figure 12: The product comes with a 5-year warranty.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for

conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question