

ExpertPower EP12100BT

ExpertPower 12V 100Ah LiFePO4 Deep Cycle Battery with Bluetooth (Model EP12100BT) Instruction Manual

Model: EP12100BT | Brand: ExpertPower

1. INTRODUCTION

This manual provides comprehensive instructions for the ExpertPower 12V 100Ah Lithium Iron Phosphate (LiFePO4) Deep Cycle Battery with integrated Bluetooth connectivity. This battery is designed for various deep cycle applications, offering a long lifespan and reliable performance. Please read this manual thoroughly before installation and operation to ensure safe and efficient use of your battery.



Image 1.1: ExpertPower 12V 100Ah LiFePO4 Deep Cycle Battery. This image displays the blue battery unit with its specifications label clearly visible on the front, including the ExpertPower logo, LiFePO4 designation, 100Ah capacity, 12.8V voltage, and Bluetooth connectivity icon.

2. SPECIFICATIONS

Specification	Value
Model Number	EP12100BT
Nominal Voltage	12.8V
Nominal Capacity	100Ah
Energy	1280Wh
Max. Continuous Discharge Current	100A
Max. Surge Discharge Current	200A (3 Seconds)
Max. Charging Current	50A
Charging Voltage	14.4V
Standby Voltage	13.4V

Dimensions (L x W x H)	13" x 6.8" x 8.4" (330mm x 173mm x 213mm)
Weight	22.6 lbs (10.25 kg)
Terminal Type	M8 Stud Terminal
Cycle Life	2500-7000 cycles (depending on depth of discharge)
Expected Lifetime	10 Years
Operating Temperature (Discharge)	-4°F to 140°F (-20°C to 60°C)
Operating Temperature (Charge)	32°F to 140°F (0°C to 60°C)
Storage Temperature	32°F to 86°F (0°C to 30°C)

ADAPTABLE

EP12100 BT | 12V 100Ah
Lithium LiFePO4



LiFePO4
Lithium Iron Phosphate
100Ah **12.8V**
1280Wh
Bluetooth Connectivity
MADE IN CHINA

Solar Charging

- Renewable energy source
- Cost-effective
- Resistant to high
- Temperatures



AC Adapter

- Convenience
- Fast charging
- Versatility



***Only use with LiFePO4 compatible chargers and controllers. Do not use with SLA chargers**

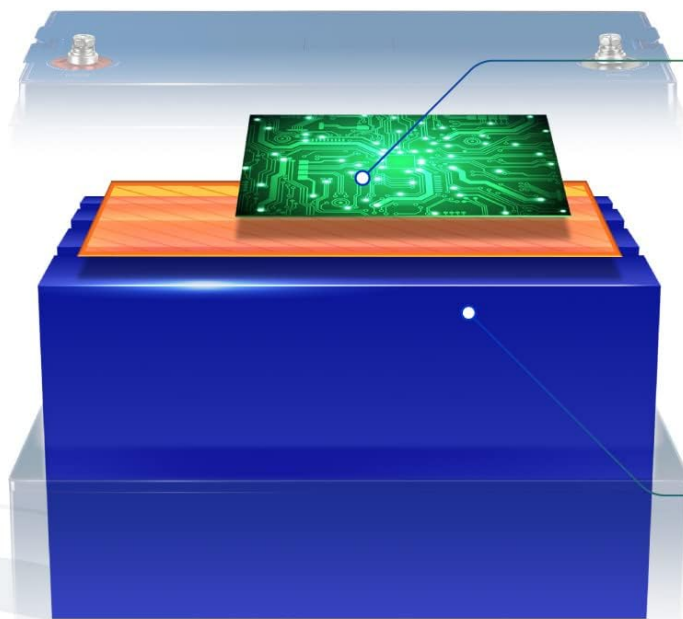
Image 2.1: Detailed dimensions and terminal specifications of the ExpertPower 12V 100Ah LiFePO4 battery. This image shows top and front views of the battery with measurements in inches, and a close-up of the M8 stud terminal with its dimensions in millimeters.

3. KEY FEATURES

- **Integrated Battery Management System (BMS):** The proprietary BMS is optimized for the battery cells, providing protection against overcharge, deep discharge, overloading, overheating, low temperatures, and short circuits. It also features auto cell balancing for maximum useful life.
- **Bluetooth Connectivity:** Monitor battery level and BMS status directly from your smartphone using the dedicated app.
- **A+ Grade Prismatic Cells:** Utilizes state-of-the-art prismatic cells, which are lighter, safer, and more efficient than cylindrical cells. These cells offer a longer lifespan and are resistant to high temperatures.
- **Long Cycle Life:** Provides 2500 to 7000 charge/discharge cycles, significantly exceeding traditional lead-acid batteries.
- **10-Year Expected Lifetime:** Designed for long-term reliability and performance.
- **Robust Safety Testing:** Cells undergo rigorous testing for puncture, fire, short circuit, impact, and liquid damage, ensuring high resilience.
- **Low Self-Discharge Rate:** The battery loses approximately 2% charge per month, allowing it to hold a charge for up to 1 year when stored.

INTELLIGENT BATTERY DESIGN

EP12100 BT | 12V 100Ah
Lithium LiFePO4



Industry Leading BMS

- Accurate battery monitoring
- Over 20 protection parameters:
- Over Charge & Discharge
- High & Low Temperature
- Short Circuit
- Auto Cell Balance
- Resistant against high currents

A+ Grade Prismatic Cells

- Best cell design in the industry
- Longest lifespan of any cell type
- Resistant to high temperatures

Track With Bluetooth App



- | | | |
|---------------------|---------------------|-----------------------|
| ✓ Battery SOC | ✓ Protection Status | ✓ Battery Temperature |
| ✓ Battery Voltage | ✓ Heating Function | ✓ BMS Parameters |
| ✓ Charge Current | ✓ Battery Status | |
| ✓ Discharge Current | ✓ Cells Status | |

*LL Battery Monitor app is available in **Apple Store** and **Google Play Store**

Image 3.1: Illustration of the intelligent battery design, highlighting the Industry Leading BMS and A+ Grade Prismatic Cells. The BMS features accurate monitoring and over 20 protection parameters, while prismatic cells offer superior design and lifespan.

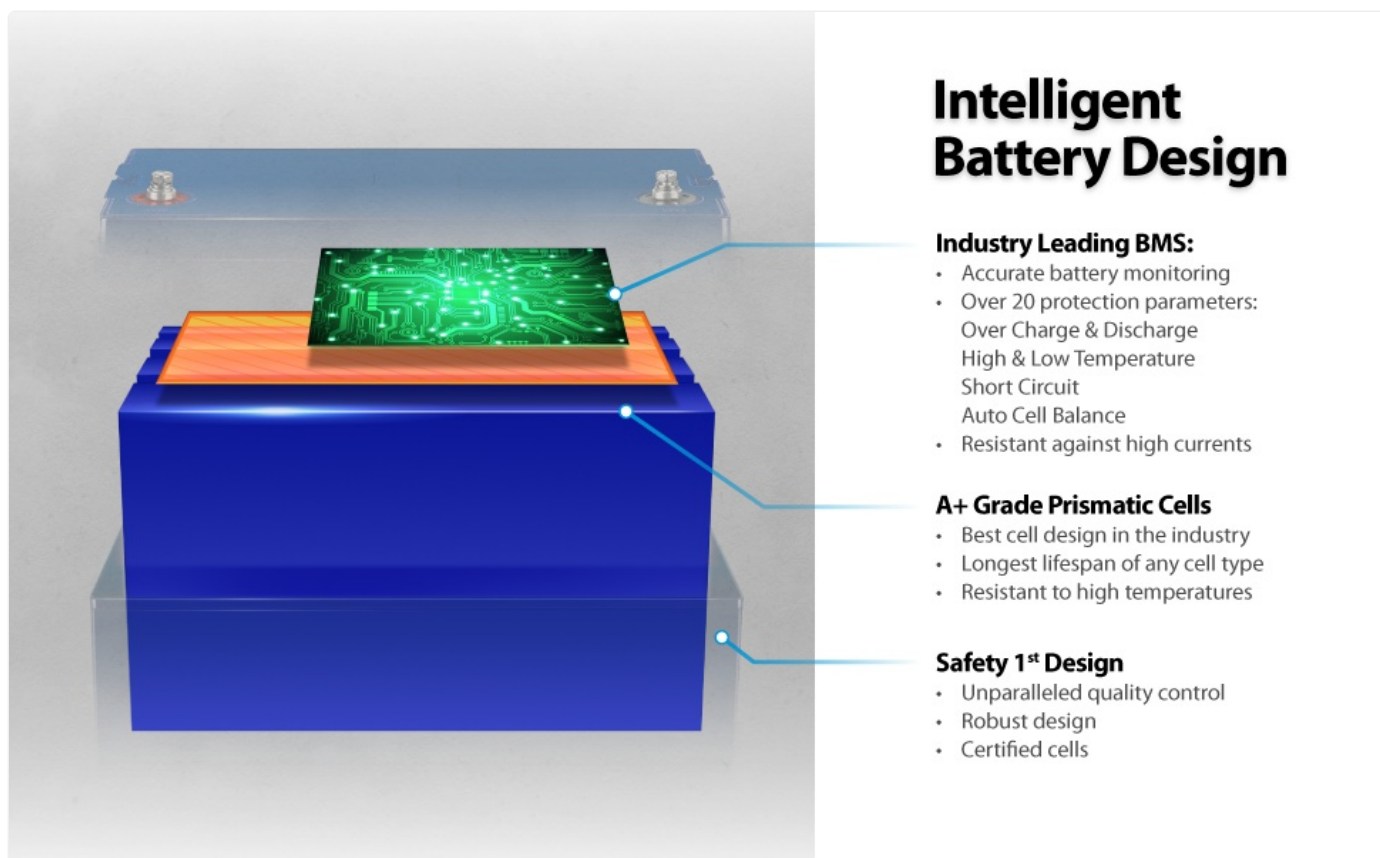


Image 3.2: Visual representation of the rigorous safety testing performed on ExpertPower LiFePO₄ cells, including puncture, short circuit, incendiary, impact, and liquid tests, demonstrating the battery's resilience.

4. SETUP AND INSTALLATION

4.1 Initial Inspection

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

4.2 Terminal Connections

Ensure all connections are secure and properly tightened. Use appropriate M8 terminals and cables rated for the expected current. Incorrect or loose connections can lead to overheating and damage.

- 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.
- Always use a fuse or circuit breaker appropriate for your system's current draw to protect the battery and connected equipment.

4.3 Series and Parallel Connections

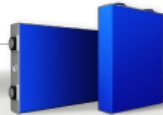
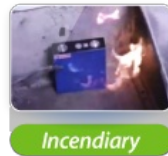
The ExpertPower 12V 100Ah LiFePO₄ battery supports expansion for increased voltage or capacity:

- **Series Connection:** Up to 4 batteries can be connected in series to achieve a 48V 100Ah system.
- **Parallel Connection:** Up to 10 batteries can be connected in parallel to achieve a 12V 1000Ah system.

When connecting batteries in series or parallel, ensure all batteries are of the same model, capacity, and state of charge. Consult a qualified technician for complex installations.

Don't settle for anything less than A+ Grade Prismatic Cells

All of our cells are rigorously tested and have proven well against a variety of damage* like:



PRISMATIC CELLS

- ✓ The strong aluminium housing has a long lifespan.
- ✓ Large volume and fewer components minimise points of failure.
- ✓ Simple design and manufacturing process produces highly reliable cells.



POUCH CELLS

- ✗ Aluminium plastic film shell conducts high temperatures more easily.
- ✗ More prone to swelling and deformation means useful life is reduced over time.
- ✗ The soft shell is fragile and requires more components for protection.



CYLINDRICAL CELLS

- ✗ Cylindrical shape is less space efficient than prismatic cells.
- ✗ Multiple cells add complexity and more points of failure to the system.
- ✗ More difficult to monitor and manage for BMS.

* For complete testing, please visit our website: expertpower.us

Image 4.1: Diagram illustrating how to connect ExpertPower LiFePO4 batteries in series (up to 4 for 48V 100Ah) and in parallel (up to 10 for 12V 1000Ah). This visual guide shows the correct wiring for expanding battery systems.

4.4 Charger Compatibility

Only use LiFePO4 compatible chargers and controllers. Do not use chargers designed for lead-acid batteries unless they have a specific LiFePO4 charging profile. Using an incompatible charger can damage the battery and void the warranty.

5. OPERATING INSTRUCTIONS

5.1 General Operation

The ExpertPower LiFePO4 battery is designed for deep cycle applications. It can be discharged significantly deeper than lead-acid batteries without damage. The integrated BMS will protect the battery from over-discharge.

5.2 Bluetooth App Monitoring

Download the "LL Battery Monitor" app from the Apple App Store or Google Play Store to track your battery's status in real-time. The app allows you to monitor:

- Battery State of Charge (SOC)
- Battery Voltage
- Charge Current
- Discharge Current
- Protection Status
- Cells Status
- Battery Temperature
- BMS Parameters

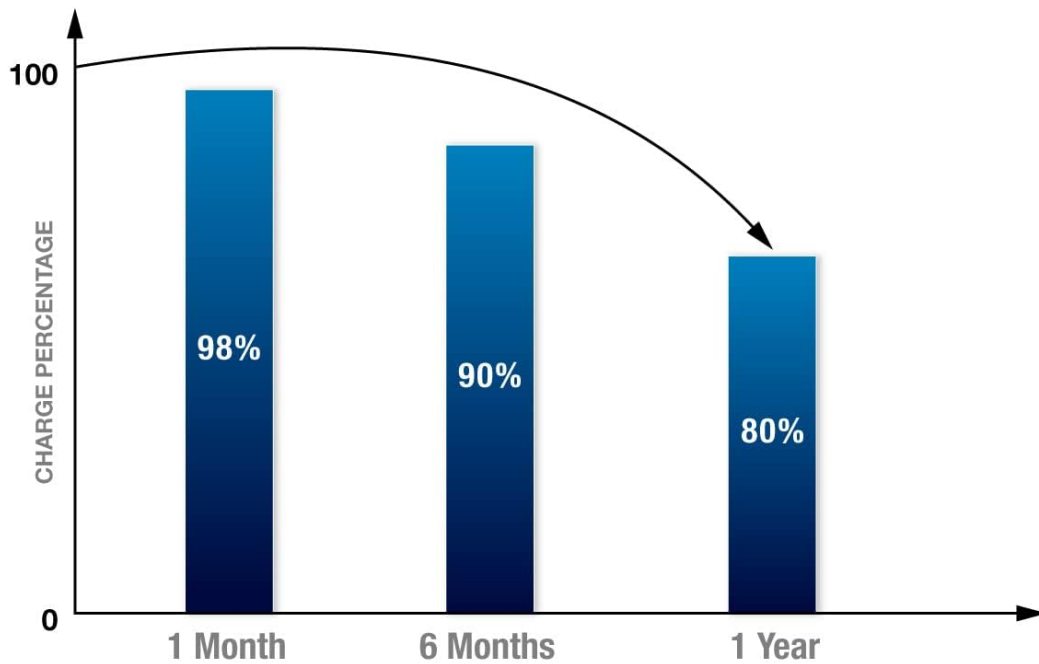


Image 5.1: Screenshot of the "LL Battery Monitor" app interface, demonstrating various parameters that can be tracked via Bluetooth, including SOC, voltage, current, cell status, and temperature.

5.3 Charging Methods

Your ExpertPower LiFePO4 battery can be charged using compatible solar charging systems or AC adapters.

- **Solar Charging:** Connect to a solar charge controller compatible with LiFePO4 batteries. This offers a renewable and cost-effective charging solution.
- **AC Adapter:** Use a dedicated LiFePO4 AC charger for convenient and fast charging from a standard wall outlet.



Low Self-Discharge

A low discharge rate means less worry when stored. Battery loses about 2% charge per month! Which is possible due to the nature of Lithium Iron Phosphate batteries and their high energy density. Meaning a fully charged LiFePO4 Battery can potentially hold a charge up to 1 year.

Image 5.2: Illustration showing the adaptability of the ExpertPower LiFePO4 battery for charging via solar panels and a compatible AC adapter. This highlights the flexibility in charging options.

6. MAINTENANCE AND STORAGE

6.1 General Maintenance

- Keep the battery terminals clean and free from corrosion.
- Periodically check all cable connections for tightness.
- Ensure the battery is kept in a well-ventilated area.

6.2 Storage

For optimal long-term storage, ensure the battery is charged to approximately 50-70% State of Charge (SOC) and stored in a cool, dry place within the recommended temperature range of 32°F to 86°F (0°C to 30°C). Due to its low self-discharge rate, a fully charged battery can be stored for up to one year without significant degradation.

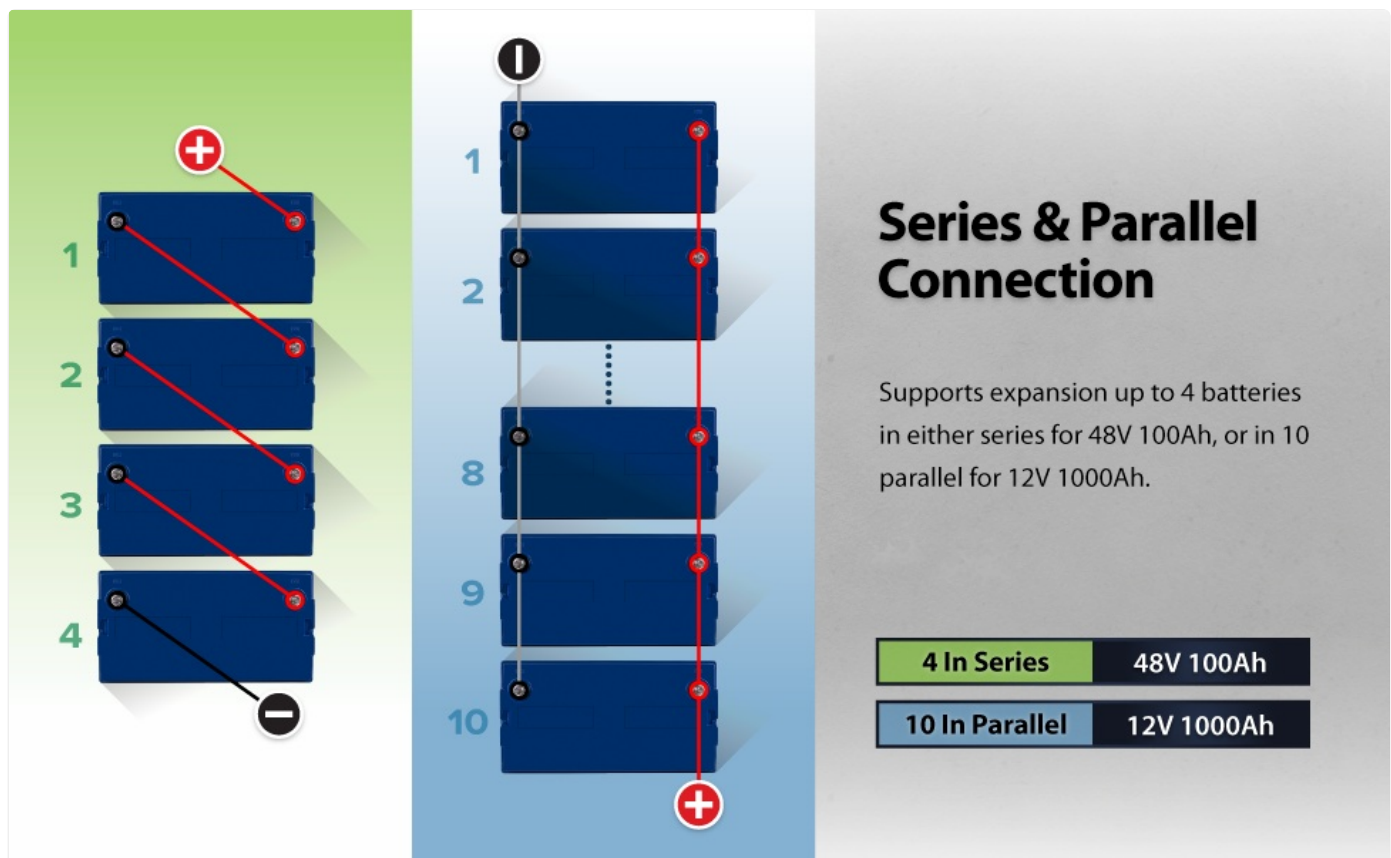


Image 6.1: Graph illustrating the low self-discharge characteristic of the ExpertPower LiFePO4 battery, showing minimal charge loss over 1 month, 6 months, and 1 year of storage.

7. TROUBLESHOOTING

The built-in Battery Management System (BMS) is designed to protect the battery from various fault conditions. If the battery appears to be non-functional, it may be due to a BMS protection trigger.

Common Issues and BMS Protections:

- **No Output/Input:** The BMS may have activated due to overcharge, deep discharge, overcurrent, or temperature extremes. Disconnect the load/charger and allow the battery to rest. Reconnect a compatible charger to reset the BMS if it was triggered by deep discharge.
- **Inverter Surge:** Some inverters may cause a surge that triggers the BMS. Consider using a soft-start mechanism or a resistor in the negative line when first powering up high-wattage inverters to prevent this.
- **Unbalanced Cells:** The BMS includes an auto cell balancing feature. If cell imbalance is detected, the BMS may temporarily halt charging or discharging until balance is restored.
- **Temperature Protection:** The BMS will prevent charging below 32°F (0°C) and discharging below -4°F (-20°C) or above 140°F (60°C) to protect the cells. Move the battery to a suitable temperature environment.

For persistent issues or complex troubleshooting, refer to the ExpertPower website or contact customer support.

8. SAFETY INFORMATION

Adhere to the following safety guidelines to prevent injury or damage:

- **Risk of Fire or Explosion:** Do not short circuit, disassemble, incinerate, or expose the battery to temperatures above 140°F (60°C).
- **Avoid Mechanical Shock:** Protect the battery from severe impacts or drops.
- **Ventilation:** Ensure adequate ventilation around the battery during operation and charging.

- **Water Exposure:** Avoid exposing the battery to water or excessive moisture.
- **Children and Pets:** Keep the battery out of reach of children and pets.
- **Disposal:** Dispose of the battery according to local regulations. Do not dispose of it in household waste.

9. APPLICATIONS

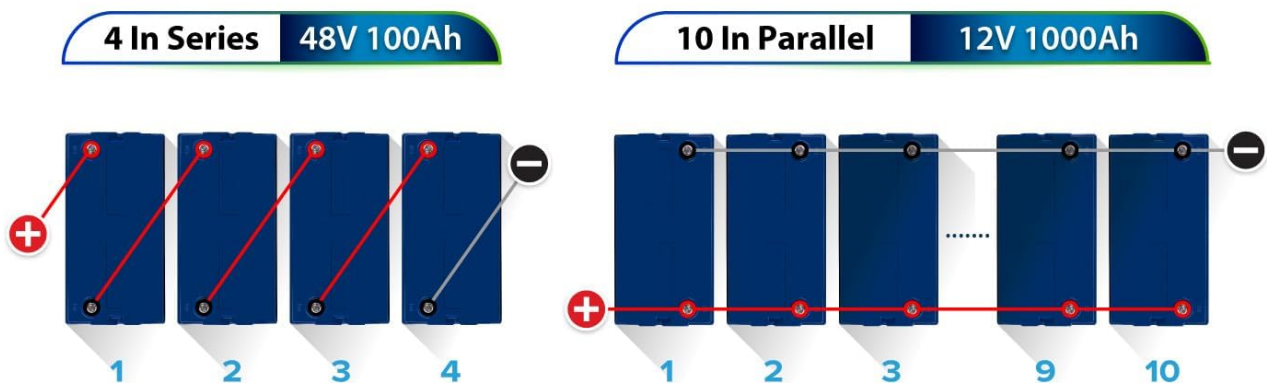
The ExpertPower 12V 100Ah LiFePO4 Deep Cycle Battery is suitable for a wide range of applications, including but not limited to:

- Recreational Vehicles (RVs) and Campers
- Solar Energy Storage Systems
- Trolling Motors
- Overland and Off-Grid Power Systems
- Home Backup Power

Note: This battery is not compatible with golf carts, ATVs, or as a jump-starting battery for vehicles or generators.

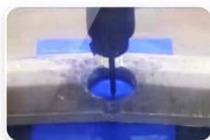
SERIES & PARALLEL CONNECTION

EP12100 BT | 12V 100Ah
Lithium LiFePO4



Safety 1st Design

All of our cells are rigorously tested and have proven well against a variety of damage* like:



Puncture



Short Circuit



Incendiary



Impact



Liquid

*For complete testing, please visit our website: expertpower.us

Image 9.1: Visual representation of various applications for the ExpertPower LiFePO4 battery, including trolling motors, home backup, RV/camper use, and DIY solar projects.

10. WARRANTY AND SUPPORT

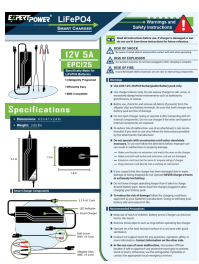


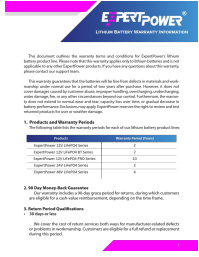
ExpertPower stands by its products with an unwavering warranty and world-class technical support. For specific warranty terms and conditions, please refer to the official ExpertPower website or contact their customer service department. If you encounter any issues or have questions regarding your battery, ExpertPower's dedicated technical support team is available to assist you.


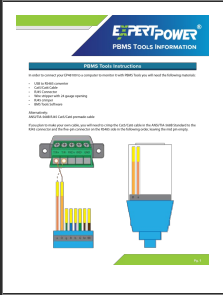
Contact Information: Please visit the official ExpertPower website for the most current contact details and support resources.




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Related Documents - EP12100BT

	<p>EXPERTPOWER EPC125 12V 5A LiFePO4 Smart Battery Charger: User Guide & Safety Instructions</p> <p>Learn how to safely and effectively use the EXPERTPOWER EPC125 12V 5A LiFePO4 Smart Battery Charger. This guide provides essential safety instructions, operating procedures, specifications, and troubleshooting tips for optimal battery charging.</p>
	<p>ExpertPower EP48100 48V 100Ah LiFePO4 Deep Cycle Battery Technical Specifications & User Guide</p> <p>Detailed specifications, features, operation, safety, and configuration guide for the ExpertPower EP48100 48V 100Ah LiFePO4 Deep Cycle battery. Learn about its BMS, charging, and installation.</p>
	<p>ExpertPower 24V 20A LiFePO4 Smart Charger Manual and Safety Instructions</p> <p>Comprehensive guide to connecting, operating, and maintaining the ExpertPower 24V 20A LiFePO4 Smart Charger. Includes safety warnings, specifications, and troubleshooting tips.</p>
	<p>ExpertPower Lithium Battery Warranty Information and Terms</p> <p>Detailed warranty terms and conditions for ExpertPower's lithium battery product line, including warranty periods, return policies, RMA guidelines, and exclusions.</p>

	<p>ExpertPower Prismatic Cell Warranty and Usage Guide</p> <p>Detailed warranty information, usage guidelines, return policy, and exclusions for ExpertPower 3.2V LiFePO4 prismatic cells (100Ah, 230Ah, 304Ah) including models LC32100, LC32230, LC32304.</p>
	<p>EXPERTPOWER EP48100 PBMS Tools Connection and Monitoring Guide</p> <p>Instructions for connecting and monitoring the EXPERTPOWER EP48100 battery system using the PBMS Tools software, including hardware setup and software configuration.</p>

Documents - ExpertPower – EP12100BT




Overview

The ExpertPower LiFePO4 12V 100Ah rechargeable battery is optimized for low rate applications which require high energy density.

Features

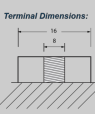
- High energy density
- Automatic protection with internal battery management system
- Low self-discharge rate
- Long cycle life
- Excellent performance in all operating temperatures
- Bluetooth
- 4 batteries in series or parallel

Battery Dimensions:



13
5.4
4.7

Terminal Dimensions:



16
8
3-5
mm


Battery Specifications:

NOMINAL CHARACTERISTICS	
Nominal Voltage (V)	12.8V
Nominal Capacity (Ah) (77°F, 0.2C)	100(Ah)
MECHANICAL CHARACTERISTICS	
Weight	22.5 lbs
Dimensions: L x W x H	13 x 5.4 x 5.4 in
BCD	Group 31
Terminal	IP20 100
ELECTRICAL CHARACTERISTICS	
Charge voltage	14.2 ~ 14.6V
Standby Voltage	13.5V
Max. Continuous Discharge Current	100A
Max. Recommended Discharge Current	200A (5sec)
Recommended Max. Charge Current	100A
OPERATION CONDITIONS	
Cycle Life (80°F, 0.2C, 50% DOD)	>1000 Cycles
Operating Temperature	Discharge: -4 ~ 147°F
Charge	32 ~ 147°F
Storage Temperature	-32 ~ 167°F
Storage Duration	12 Months at 77°F
Safety Standard	UL5424 at cold level

[\[pdf\]](#) Specifications Dimension Guide

ExpertPower 12V 100Ah BT V1 Resources Direct EP12100BT 2 cdn shopify s files 1 2364 9089 ||| **EP12100BT** LiFePO4 Deep Cycle Overview The ExpertPower LiFePO4 12V100Ah rechargeable battery is optimized for low rate applications which require high energy density. Features High energy density Automatic protection with internal battery management system Low self-discharge rate Lon...

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
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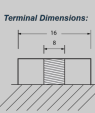
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[\[pdf\]](#) Specifications Dimension Guide

ExpertPower 12V 100Ah BT V1 Specification Sheet Lithium LiFePO4 Deep Cycle Rechargeable Battery Bluetooth 2500 7000 Life Cycles 10 Year Lifetime Built in BMS RV Van Solar Marine Overland Off Grid Automotive A1MsL4IDB6L m media amazon images I ||| **EP12100BT** LiFePO4 Deep Cycle Overview The ExpertPower LiFePO4 12V100Ah rechargeable battery is optimized for low rate applications which require high energy density. Features High energy density Automatic protection with internal battery management system Low self-discharge rate Lon...

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