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Wattcycle 12V 100Ah LiFePO4 Lithium Battery User Manual

Model: WT12V100AH100MINIBT

INTRODUCTION

The Wattcycle 12V 100Ah LiFePO4 Lithium Battery is a compact and portable energy storage solution designed for various applications including RVs, marine use, and off-grid solar systems. Featuring Bluetooth connectivity and a Smart Battery Management System (BMS), this battery offers reliable performance and enhanced safety.

This mini 12V 100Ah LiFePO4 battery boasts an 11% weight reduction and 39% volume reduction compared to previous generations, with an energy density of 63Wh/lbs. It is lightweight enough for single-person transport, making it ideal for outdoor setups.

Bluetooth 5.2 Make Your Energy Reliable



Image: Wattcycle 12V 100Ah LiFePO4 Lithium Battery with a smartphone displaying the Bluetooth app interface, showing real-time battery data.

WHAT'S IN THE BOX

- 1 x 12V 100Ah Mini Bluetooth LiFePO4 Battery (10.2*6.6*8.2 inches)
- 4 x M8 Screws
- 2 x Insulated Cap
- Instruction Manual

100A SMART BMS PROTECTION







Over Charge ✓



Over Discharge ✓



Over Load ✓



Over Current ✓



Equalization ✓



Short Circuit ✓

100%

5000+ Cycles
(100% DOD)

80%

6000+ Cycles
(80% DOD)

60%

15000+ Cycles
(60% DOD)

Image: A visual representation of the items included in the product package, showing the battery, screws, caps, and manual.

Your browser does not support the video tag.

Video: An unboxing video demonstrating the contents of the Wattcycle 100Ah LiFePO4 battery package, showing each item as it is removed from the box.

SPECIFICATIONS

Specification	Value
Brand	Wattcycle
Model	WT12V100AH100MINIBT
Rated Capacity	100Ah
Nominal Voltage	12.8 Volts
Nominal Energy	1280Wh

Cycle Life	Up to 15,000 deep cycles (at 60% DOD)
Max Continuous Discharge Current	100A
Peak Discharge Current	300A (different parallel quantities)
Charge Voltage	14.4V $\pm$ 0.2V
Terminal Type	M8
Product Dimensions	5.4"D x 9"W x 8.2"H
Item Weight	20.9 pounds
IP Degree	IP65
Housing Material	ABS
Operating Temperature	-4°F to 158°F (-20°C to 70°C)



Image: A visual comparison highlighting the compact size and lighter weight of the Wattcycle Mini LiFePO4 battery compared to a traditional lead-acid battery.

SETUP

Connecting Terminals

The battery comes with M8 screws for terminal connections. Ensure secure connections for optimal performance. Always use appropriate tools and safety precautions when handling battery terminals.

Initial Voltage Check

Before initial use, it is recommended to check the battery's voltage. The Wattcycle app can provide real-time voltage readings. For optimal performance, ensure the battery is adequately charged before heavy use.

Bluetooth App Connection

Download the Wattcycle App from your smartphone's app store. You can customize the Bluetooth name for easy identification. Once connected, the app allows you to monitor real-time battery data such as voltage, charging/discharging current, temperature, and alarm alerts.

Low-Temp Cut-Off Protection



Max discharge temperature
158°F (70°C)



Min. discharge temperature
-4°F (-20°C)

OPERATING

Charging Methods

The Wattcycle LiFePO4 battery can be charged using various methods:

- **LiFePO4 Charger:** Approximately 5 hours with a 14.6V 20A (0.2C) charger.
- **Solar Panel:** Can be charged in about 1 sunny day with a $\geq 400\text{W}$ solar panel.
- **Alternator/Generator:** Approximately 5 hours with a 20A DC-DC charger.

Image: A visual guide showing the three primary methods for charging the battery: using a LiFePO4 charger, solar panels, or an alternator/generator.

Series and Parallel Connection

The battery supports up to a 4S4P configuration, allowing expansion of total capacity up to 20.48kWh. This is ideal for powering large systems like marine trolling motors or whole-RV setups.

Off-grid



Image: A diagram illustrating how multiple Wattcycle batteries can be connected in series and parallel to achieve higher voltage or capacity, showing configurations from 1P to 4S4P.

Your browser does not support the video tag.

Video: A detailed guide on how to properly charge, and connect multiple batteries in series and parallel configurations for the Wattcycle LiFePO4 battery system.

MAINTENANCE

Low-Temperature Protection

This battery operates in a wide temperature range (-4°F to 158°F / -20°C to 70°C). It automatically cuts off charging below 32°F (0°C) to protect cells and resumes charging once temperatures rise above 41°F (5°C). This ensures consistent performance in cold environments.



Image: The Wattcycle battery is shown in a snowy environment, illustrating its low-temperature cut-off protection features.

Smart BMS Protection

The built-in 100A Battery Management System (BMS) safeguards against overcharge, deep discharge, overload, overheating, low temperatures, and short circuits. It also balances individual cells to maintain efficiency, preventing uneven wear that shortens battery life.



Image: An exploded view of the battery highlighting the 100A BMS and its various protection mechanisms.

TROUBLESHOOTING

BMS Shutdown

If the battery experiences an over-current event, the BMS may shut down to protect the cells. The app will display a 'DSG OC Alarm(A)' warning message. To reactivate, you may need to disconnect the load and reconnect, or use the app to re-enable the discharge switch.

App Connectivity Issues

Ensure your device's location services are enabled for the app to recognize the battery. If the app prompts to download a different application (e.g., 'Frontdoor'), scroll down to find and install the correct 'BMS Meta' application. Be aware that downloading apps outside of official app stores may present security warnings.

WARRANTY & SUPPORT

Wattcycle LiFePO4 batteries come with a 5-year warranty. For product concerns, reach our team via the Amazon page (we respond within 24 hours) or our official email. Our dedicated technical support helps with setup, troubleshooting, and connectivity.