Litime L12V165-165-BT-4-A100

LiTime 12V 165Ah Bluetooth LiFePO4 Battery User Manual

Model: L12V165-165-BT-4-A100
Brand: LiTime

Introduction

This user manual provides essential information for the safe and effective operation, installation, and maintenance of your LiTime 12V 165Ah Bluetooth Lithium Iron Phosphate (LiFePO4) Battery. This battery is designed for various applications including RVs, marine vessels, off-grid systems, home energy storage, and solar power setups, offering high energy density and a robust Battery Management System (BMS).
Please read this manual thoroughly before using the battery to ensure proper handling and to maximize its lifespan and performance.

Package Contents

- LiTime 12V 165Ah Battery
- M8-5/8" [16mm] Terminal Bolts
- Insulating Caps for Bolts

Safety Information

Important Safety Instructions

Always observe the following safety precautions when handling, installing, or operating the LiTime LiFePO4 battery:

- Do not use this battery as a starter battery for vehicles or for golf carts. It is designed for deep cycle applications.
- Ensure all connections are secure and properly insulated to prevent short circuits.
- Wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when working with batteries.
- Do not disassemble, puncture, or damage the battery. Internal components can be hazardous.
- Avoid exposing the battery to extreme temperatures outside its specified operating range.
- Keep the battery away from open flames, heat sources, and flammable materials.
- In case of fire, use a Class D fire extinguisher. Water or foam may exacerbate a lithium battery fire.

- If OT terminals are attached directly with screws and their thickness is less than 2mm, add gaskets for lock attachment to prevent loosening and overheating.
- Ensure proper ventilation when installing the battery in enclosed spaces.

Setup and Installation

Initial Activation

Upon first receiving the battery or after it has been switched off, you need to charge the battery using a lithium-activation charger or an MPPT charger to activate the Bluetooth function and ensure full functionality.

Installation Guidelines

The LiTime 12V 165Ah battery is designed as a drop-in replacement for traditional lead-acid batteries. Its Group 31 size makes it compatible with many existing battery trays and systems.

Image: The LiTime 12V 165Ah battery, showcasing its compact dimensions (L13" x W6.77" x H8.5") and weight (32.15 lbs), making it an ideal drop-in replacement for lead-acid batteries in various applications like RVs.

- Ensure the battery is placed on a stable, flat surface.
- Connect the battery terminals securely using the provided M8-5/8" [16mm] terminal bolts and insulating caps.
- For parallel or series connections (up to 4P4S expansion), follow proper wiring diagrams and ensure all batteries are of the same voltage and capacity.
- Verify correct polarity (+ to + and - to -) before making final connections to your system.

Operation

Bluetooth Connectivity

The LiTime 12V 165Ah battery features integrated Bluetooth 5.0, allowing you to monitor real-time battery data and control discharge functions directly from your smartphone. Download the official LiTime app from your device's app store.

Image: A smartphone screen showing the LiTime Bluetooth app interface, which allows users to auto-connect, monitor data/status, control discharge, and perform battery system checks for enhanced control and confidence.

- Ensure Bluetooth is enabled on your smartphone.

- Open the LiTime app and follow the on-screen instructions to connect to your battery.
- The app provides data such as voltage, current, temperature, and state of charge.
- You can also use the app to control the battery's discharge on/off function.

Battery Management System (BMS)

The integrated 165A BMS provides comprehensive protection and optimizes battery performance. It delivers a continuous output of 165A and can handle a peak discharge current of 825A for 1 second.

Image: An illustrative diagram highlighting the advanced 165A BMS tailored for RVs, marine, and off-grid use, featuring over 20 protections, 165A max continuous output, and 825A max peak discharge.

The BMS includes over 20 protection features, such as:

- Overcharge protection
- Over-discharge protection
- Overcurrent protection
- Short-circuit protection
- Low-temperature cut-off for charging

- High-temperature protection
- Auto-recovery after overload protection (30s)
- Salt-spray resistance and moisture-proof design

Low Temperature Operation

The battery is designed with features to extend its life even in low-temperature conditions:

Image: The LiTime battery positioned in a snowy landscape with an RV, visually representing its low-temperature capabilities: charging off below 32°F/0°C, charging recovery at or above 41°F/5°C, and discharging off below -4°F/-20°C.

- Charging is automatically cut off below 32°F (0°C).
- Charging recovery occurs at or above 41°F (5°C).
- Discharging is automatically cut off below -4°F (-20°C).

Maintenance

General Care

LiFePO4 batteries require minimal maintenance. However, following these guidelines will help ensure optimal performance and longevity:

- Keep the battery terminals clean and free of corrosion.
- Store the battery in a cool, dry place when not in use for extended periods.
- Avoid fully discharging the battery regularly to extend its cycle life, although it is rated for 100% Depth of Discharge (DOD).
- The battery is IP65 waterproof and dust resistant, engineered to endure extreme conditions including moisture and salt spray.

Image: The LiTime battery positioned outdoors with a van in a rugged, wet environment, emphasizing its IP65 waterproof and dust-resistant design, built to withstand moisture and salt spray.

Cycle Life

The LiTime 12V 165Ah battery utilizes EV grade LiFePO4 cells, providing an impressive cycle life of 4000+ cycles at 100% Depth of Discharge (DOD), which translates to over 10 years of use without replacement under typical conditions.

Image: A visual representation of the LiTime battery's internal structure, highlighting its top EV grade LiFePO4 cells, which ensure stable discharging, 4000+ cycles at 100% DOD, and a 10-year lifespan.

Troubleshooting

Common Issues and Solutions

- **Battery Not Activating / Bluetooth Not Working:**

  After first receiving the battery or switching it off, you need to charge the battery using a lithium-activation charger or an MPPT charger to activate the Bluetooth function.

- **Loose Terminal Connections / Overheating:**

  If OT terminals are attached directly with screws and their thickness is less than 2mm, add gaskets for lock attachment to prevent loosening and overheating.

- **Overload Protection Triggered:**

  The BMS features auto-recovery after overload protection (30 seconds). If the battery stops discharging, reduce the load and wait for it to reset.

- **Battery Not Charging in Cold Weather:**

  The BMS will cut off charging below 32°F (0°C) to protect the cells. Ensure the battery temperature is above 41°F (5°C) for charging to resume.

- **Battery Not Discharging in Extreme Cold:**

  Discharging is cut off below -4°F (-20°C). Move the battery to a warmer environment if operation is required in such conditions.

SPECIFICATIONS

Technical Data

Specification	Value
Brand	LiTime
Model	L12V165-165-BT-4-A100
Nominal Voltage	12V
Capacity	165Ah
Energy	2112Wh
Continuous Output Power	2112W
BMS Continuous Discharge Current	165A
Peak Discharge Current	825A (for 1 second)
Cycle Life	4000+ cycles @ 100% DOD
Energy Density	172.3Wh/L
Product Dimensions (L x W x H)	13 x 6.77 x 8.5 inches
Item Weight	32.2 pounds
Terminal Type	M8
Protection Features	20+ protections including low-temp cut-off, auto-recovery, salt-spray resistance, moisture-proof
Expansion Capability	4P4S (up to 3379Wh energy & 3379W power)
Certifications	UL-1973, FCC, CE, RoHS, UN38.3 certified
Country of Origin	China

Image: A visual comparison demonstrating that the LiTime 12V 165Ah battery, despite being the same Group 31 size, offers 1.65X more energy (2112Wh) compared to a 12V 100Ah battery (1280Wh).

Applications

The LiTime 12V 165Ah LiFePO4 battery is a versatile power solution suitable for a wide range of applications:

Image: A collage showcasing the diverse applications of the LiTime battery, including RV/camping, marine, off-grid systems, home storage, and solar power systems, highlighting its versatility as a single solution for multiple power needs.

- **RV/Camping:** Provides reliable power for recreational vehicles and outdoor camping setups.
- **Marine:** Ideal for boats and marine applications, including trolling motors.
- **Off-Grid Systems:** Powers remote cabins and off-grid living solutions.
- **Home Storage:** Can be integrated into home backup power systems.
- **Solar Systems:** Efficiently stores energy generated from solar panels.

Warranty and Support

Warranty Information

The LiTime 12V 165Ah Bluetooth Lithium Battery comes with a 5-year warranty, covering defects in materials and workmanship under normal use and service conditions. Please retain your proof of purchase for warranty claims. Additionally, a 15-day price guarantee is offered.

Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact LiTime customer support. Refer to the official LiTime website or your purchase documentation for contact details.
You can also visit the LiTime Store on Amazon for more information and resources.