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LOSSIGY 12400-1

LOSSIGY 12V 400AH LiFePO4 Lithium Battery User Manual

Model: 12400-1

Introduction

This manual provides essential information for the safe and efficient use of your LOSSIGY 12V 400AH LiFePO4 Lithium Battery. Please read it thoroughly before installation and operation to ensure optimal performance and longevity of the product.

Important Safety Information

Observe the following safety precautions to prevent injury or damage to the battery and connected equipment:

- Do not short-circuit the battery terminals.
- Do not expose the battery to fire or extreme heat.
- Do not immerse the battery in water.
- Use only compatible chargers designed for LiFePO4 batteries.
- Ensure proper ventilation during charging and discharging.
- Avoid dropping or subjecting the battery to severe impacts.
- Do not attempt to disassemble or modify the battery.
- Wear appropriate personal protective equipment (PPE) when handling batteries.



The integrated Battery Management System (BMS) provides multiple layers of protection, including safeguards against overcharge, overcurrent, overdischarge, low voltage, high temperature, and short circuits, ensuring safe operation and extended battery life.

Product Overview

The LOSSIGY 12V 400AH LiFePO4 Lithium Battery is a deep cycle power supply designed for various applications, including solar systems, RVs, and off-grid setups. It features Grade-A LiFePO4 cells for stable performance and a long lifespan.



Front view of the LOSSIGY 12V 400AH LiFePO4 battery, highlighting its key specifications and certifications.

Key Features:

- **Grade-A LiFePO4 Cells:** Manufactured with automotive-grade cells for high energy density and stable performance.
- **Long Lifespan:** Designed for a 10-year lifespan with over 4000 cycles.
- **Integrated BMS:** Provides comprehensive protection against overcharge, overcurrent, overdischarge, low voltage, high temperature, and short circuits.
- **Versatile Applications:** Suitable for marine, RV, camping, golf carts, medical devices, off-road, household energy storage, and off-grid systems.

What's Included:

- LOSSIGY 12V 400Ah LiFePO4 Battery
- Positive and negative wiring
- 4 Extra Removable M8 Battery terminal screws
- Product parameter guide

Technical Specifications

Parameter	Value
Nominal Voltage	12.8V
Total Capacity	400Ah

Parameter	Value
Energy	5120Wh
Max. Continuous Discharge Current	250A
Max. Continuous Load Power	3000W
Recommended Inverter Size	Up to 3000W
Recommended Charging Current	40A-80A
Waterproof Rate	IP65
Charging Temperature Range	0℃ - 45℃ (32℉ - 113℉)
Discharging Temperature Range	-20℃ - 60℃ (-4℉ - 140℉)
Storage Temperature Range	-10℃ - 50℃ (14℉ - 122℉)
Product Dimensions (L*W*H)	520 x 269 x 220 mm (20.47 x 10.59 x 8.66 inches)
Item Weight	90 pounds (40.8 kg)
Terminal Type	M8
Model Number	12400-1
UPC	736809137714



Detailed dimensions of the battery and specifications for the M8 terminals.

Setup and Installation

Connecting Batteries in Series:

If you need to connect multiple batteries in series (up to 4), follow these steps carefully to ensure optimal performance and safety:

1. **Step 1: Fully Charge Each Battery Separately.** Ensure each individual battery is fully charged before attempting series connection.
2. **Step 2: Parallel Connection for Balancing.** Connect the fully charged batteries in parallel and allow them to sit for at least 2 hours. This helps to balance the voltage across all batteries.
3. **Step 3: Verify Voltage and Connect in Series.** Disconnect all batteries from parallel connection. Measure the voltage of each battery separately. If all voltages are equal, proceed to connect them in series. If voltages are not equal, repeat steps 1 and 2 until they are balanced.

Following these steps improves the discharge performance and extends the service life of the battery system when connected in series.

Connecting Batteries in Parallel:

Batteries can be directly connected in parallel without any special balancing procedures, provided they are of the same voltage and capacity.

General Installation Guidelines:

- Install the battery in a well-ventilated area, away from direct sunlight, heat sources, and flammable materials.
- Ensure the battery is securely mounted to prevent movement or damage.
- Use appropriate gauge wiring and connectors for your application to handle the maximum current.
- Connect positive terminals to positive and negative terminals to negative when connecting in parallel.
- Always connect the load to the battery bank after all battery connections are secure.

Operation

Charging:

- The recommended charging voltage is between 14.2V and 14.6V.
- Recommended charging current is 40A-80A.
- The battery voltage will stabilize between 13.4V-13.8V (100% capacity) after being fully charged and standing for one day and one night.
- Charge the battery within the specified temperature range of 0℃ to 45℃ (32℉ to 113℉).

Discharging:

- The maximum continuous discharge current is 250A.
- The maximum continuous load power is 3000W.
- Operate the battery within the specified temperature range of -20℃ to 60℃ (-4℉ to 140℉).

Typical Applications and Run Times:

The 12V 400AH battery can power various appliances. Below are estimated run times based on 90% Depth of Discharge (DOD) and 90% efficiency:



Estimated working times for common appliances powered by the 12V 400AH battery. Actual times may vary based on specific power methods and environmental conditions.

Maintenance and Storage

- Regularly inspect battery terminals for corrosion and ensure connections are tight.
- Keep the battery clean and dry.
- For long-term storage, store the battery in a cool, dry place within the temperature range of -10℃ to 50℃ (14℉ to 122℉).
- It is recommended to store the battery at a state of charge between 50% and 70% for optimal longevity during extended storage periods.
- Avoid storing the battery in direct sunlight or near heat sources.

Troubleshooting

This section provides general guidance for common issues. For complex problems, contact customer support.

- **Battery Not Charging:**
  - Check charger connections and ensure the charger is compatible with LiFePO4 batteries.
  - Verify the charging voltage is within the recommended range (14.2V-14.6V).
  - Ensure the ambient temperature is within the charging temperature range.
- **Low Power Output:**
  - Check all connections for tightness and corrosion.
  - Ensure the load does not exceed the maximum continuous discharge current (250A) or load power (3000W).
  - Verify the battery's state of charge.
- **Battery Shuts Off Unexpectedly:**
  - This may indicate a BMS protection activation (e.g., low voltage, overcurrent, high/low temperature).
  - Allow the battery to rest, then check its voltage and temperature.
  - Reduce the load if an overcurrent condition is suspected.

Warranty and Support

Warranty Information:

The LOSSIGY 12V 400AH LiFePO4 Lithium Battery comes with an exclusive**5-year full device warranty**. This warranty covers defects in materials and workmanship under normal use. The warranty period begins upon completion of the purchase.



Overview of the 5-year warranty and available customer support services.

Customer Support:

For technical assistance, warranty claims, or any product-related inquiries, LOSSIGY provides:

- **24-hour online customer service:** Available to assist with your questions and concerns.
- **Professional technical support:** Provided until the product is fully operational and meeting your needs.

If you receive a defective product or are dissatisfied, please contact customer service for replacement or a full refund.

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