yeagulch YS95405

yeagulch 12V 150Ah LiFePO4 Lithium Battery User Manual

Model: YS95405

1. Introduction

This manual provides essential information for the safe and efficient use of your yeagulch 12V 150Ah LiFePO4 Lithium Battery. Please read these instructions carefully before installation and operation to ensure optimal performance and longevity of your battery. This battery is designed for various applications including RVs, solar systems, marine, and off-grid power solutions.

2. Safety Instructions

- Always wear appropriate personal protective equipment (PPE) such as safety glasses and gloves when handling batteries.
- Ensure all connections are secure and properly insulated to prevent short circuits.
- Do not disassemble, puncture, or modify the battery.
- Keep the battery away from open flames, heat sources, and flammable materials.
- Do not immerse the battery in water or other liquids.
- This battery is not suitable for starting gasoline engines, golf carts, or jacks.
- Avoid charging the battery below 0°C (32°F) or above 65°C (149°F) to prevent damage and ensure safety. The built-in BMS will automatically cut off charging in these conditions.
- Ensure adequate ventilation around the battery during operation and charging.

3. Product Overview

The yeagulch 12V 150Ah LiFePO4 Lithium Battery offers a reliable and long-lasting power solution. It features a robust design with an integrated Battery Management System (BMS) for enhanced safety and

performance.

Key Features:

- **Built-in 100A BMS:** Provides protection against overcharging, over-discharging, overcurrent, short circuits, and overheating, ensuring a stable and safe power supply.
- **Low-Temperature Cut-Off:** Automatically stops charging when the battery temperature drops below 0°C (32°F) to protect the cells and extend battery life.
- **High-Temperature Cut-Off:** Automatically stops charging when the battery temperature exceeds 65°C (149°F) for safety.
- **Long Cycle Life:** Capable of 15,000+ deep cycles at 60% Depth of Discharge (DOD), significantly outlasting lead-acid batteries.
- **Lightweight and Compact:** Weighing approximately 28.64 lbs (13 kg) with dimensions of 12.8 × 6.5 × 8.46 inches, making it easy to install in various spaces.
- **High Energy Density:** Offers 1920Wh of energy for sustained power needs.

Image: Comparison of yeagulch LiFePO4 battery with a traditional lead-acid battery, illustrating superior performance metrics.

Image: Summary of the battery's core features and benefits.

4. Setup

4.1 Unpacking and Inspection

Upon receiving your battery, carefully unpack it and inspect for any signs of damage. If damage is found, contact customer support immediately.

4.2 Installation

The yeagulch LiFePO4 battery is designed for flexible installation. It can be installed upright or sideways to fit into narrow spaces. Ensure the battery is secured to prevent movement during operation.

- **Mounting:** Secure the battery in a dry, well-ventilated area. Avoid direct sunlight or extreme temperatures.
- **Orientation:** The battery can be installed on its side. **Do not invert the battery.**
- **Clearance:** Allow sufficient space around the battery for air circulation and ease of access for connections.

Image: Illustration of flexible installation options, including sideways mounting, with a caution against inverting the battery.

4.3 Wiring Connections

Connect the battery to your system using appropriate cables and connectors. Ensure correct polarity (positive to positive, negative to negative). The battery comes with M8 terminal bolts.

- **Single Battery Connection:** Connect the positive terminal to the positive input of your load/charger and the negative terminal to the negative input.
- **Series Connection:** For higher voltage systems, up to 4 batteries can be connected in series (maximum 4S). Connect the positive terminal of one battery to the negative terminal of the next.
- **Parallel Connection:** For higher capacity, up to 4 batteries can be connected in parallel (maximum 4P). Connect positive terminals together and negative terminals together.
- **Combined Series-Parallel:** A maximum configuration of 4 series and 4 parallel (4S4P) is supported to create a 51.2V system or increase capacity.
- Always use appropriate fuses and circuit breakers for your system to protect against overcurrent.

5. Operating Instructions

5.1 Charging

The yeagulch LiFePO4 battery supports two primary charging modes:

- **LiFePO4 Charger:** Use a dedicated LiFePO4 compatible charger with appropriate voltage and current settings.
- **Solar Panel + MPPT Controller:** Connect to a solar panel system with a Maximum Power Point Tracking (MPPT) charge controller optimized for LiFePO4 batteries.

The built-in BMS will manage the charging process, including low and high-temperature cut-offs. Ensure charging occurs within the recommended temperature range of 0°C to 65°C (32°F to 149°F).

5.2 Discharging

The battery is designed for deep cycle applications. The BMS protects against over-discharging. The recommended discharge temperature range is -20°C to 70°C (-4°F to 158°F).

Image: Illustration of the battery's temperature resistance, indicating safe operating ranges for charging and discharging.

5.3 Applications

This battery is ideal for a wide range of applications requiring reliable and long-lasting power:

- Recreational Vehicles (RVs)
- Solar Energy Storage Systems
- Marine Applications
- Off-Grid Power Systems
- Home Energy Storage
- Independent Power Systems
- Camping Power
- Monitoring Systems

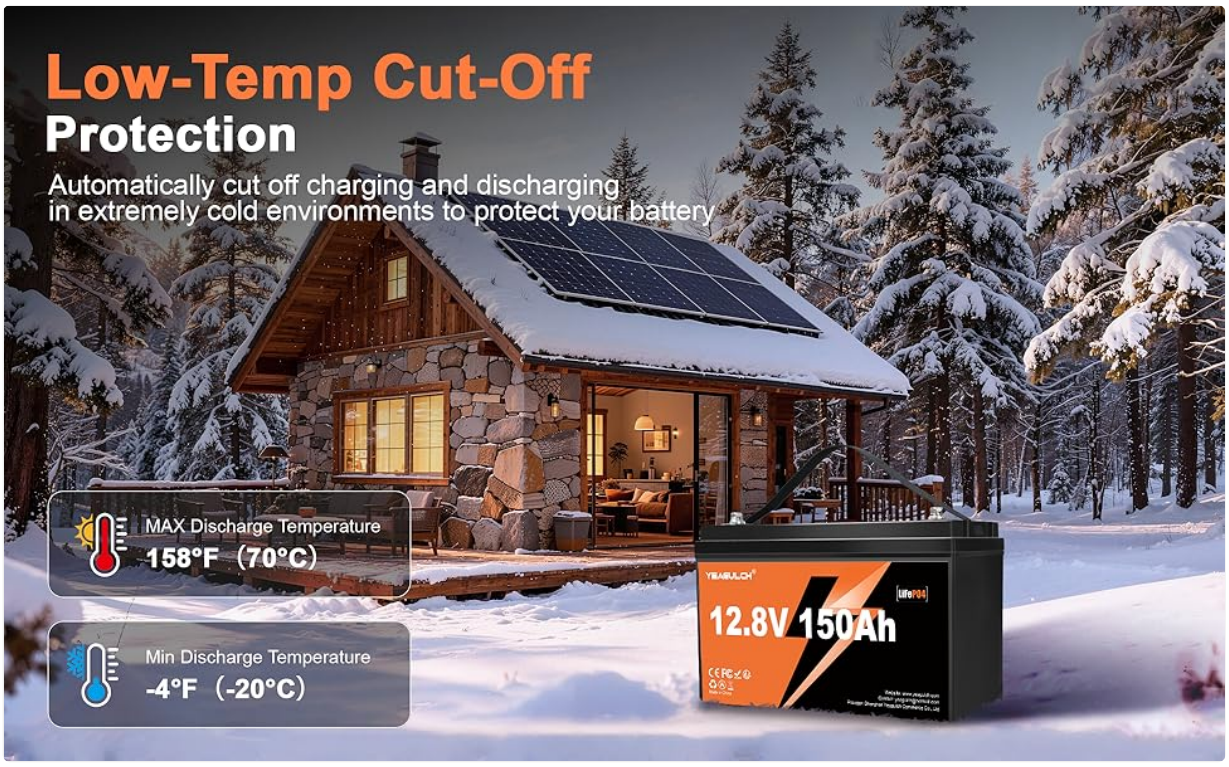

Image: Examples of diverse applications for the yeagulch LiFePO4 battery.

6. Maintenance

- **Regular Inspection:** Periodically check battery terminals for corrosion and ensure connections are tight.
- **Cleaning:** Keep the battery clean and free of dust and debris. Use a dry cloth for cleaning.
- **Storage:** If the battery will not be used for an extended period, charge/discharge it once every 6 months to prevent damage from disuse. Store in a cool, dry place.
- **Temperature:** Avoid exposing the battery to extreme temperatures outside its operating range.

7. Troubleshooting

If you encounter issues with your battery, refer to the following common troubleshooting steps:

- **Battery Not Charging:**
  - Check all cable connections for proper seating and polarity.
  - Verify the charger is compatible with LiFePO4 batteries and is functioning correctly.
  - Ensure the ambient temperature is within the charging range (0°C to 65°C / 32°F to 149°F). The BMS may have initiated a low-temperature cut-off.
  - Inspect fuses and circuit breakers in your system.
- **Low Power Output:**
  - Check the battery's State of Charge (SOC). Recharge if necessary.
  - Ensure the load is not exceeding the battery's continuous discharge current rating (100A). The BMS may have activated overcurrent protection.
  - Verify all connections are secure and free of corrosion, which can increase resistance.
- **Battery Overheating:**

- Ensure adequate ventilation around the battery.
- Reduce the load if it is consistently high.
- The BMS will initiate a high-temperature cut-off if the internal temperature exceeds safe limits. Allow the battery to cool down.

If problems persist after following these steps, please contact customer support.

8. Specifications

Feature	Specification
Model Number	YS95405
Nominal Voltage	12.8V
Nominal Capacity	150Ah
Energy	1920Wh
Built-in BMS	100A
Cycle Life	15,000+ cycles (60% DOD)
Dimensions (L×W×H)	12.8 × 6.5 × 8.46 inches (32.5 × 16.5 × 21.5 cm)
Weight	28.64 lbs (13 kg)
Charging Temperature	0°C to 65°C (32°F to 149°F)
Discharging Temperature	-20°C to 70°C (-4°F to 158°F)
Terminal Type	M8
Series/Parallel Connection	Max 4S4P

Image: Physical dimensions and weight of the battery, including M8 terminal bolts.

9. Warranty and Support

For any questions, technical assistance, or warranty claims regarding your yeagulch 12V 150Ah LiFePO4 Lithium Battery, please contact our customer service team. Refer to your purchase documentation for specific warranty terms and contact information.