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> Ingeosolly 24V 150Ah LiFePO4 Lithium Battery User Manual

Ingeosolly IN-24V150Ah

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Model: IN-24V150Ah

1. INTRODUCTION

Thank you for choosing the Ingeosolly 24V 150Ah LiFePO4 Lithium Battery. This manual provides essential information for the safe and efficient use, installation, operation, and maintenance of your battery. Please read this manual thoroughly before using the product and retain it for future reference. This battery is designed for deep cycle applications, offering a long lifespan and reliable power for various uses, including RVs, marine vessels, and solar power systems.

2. SAFETY INFORMATION

WARNING: Failure to follow these safety instructions may result in electric shock, fire, serious injury, or death.

- Always wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when handling batteries.
- Do not short-circuit the battery terminals. This can cause severe damage to the battery and pose a fire hazard.
- Do not disassemble, puncture, or modify the battery. Internal components are not user-serviceable.
- Keep the battery away from open flames, heat sources, and flammable materials.
- Ensure adequate ventilation when charging or operating the battery.
- Do not immerse the battery in water or expose it to excessive moisture. While rated IP65, prolonged submersion is not recommended.
- Operate and store the battery within the specified temperature ranges: -4°F (-20°C) to 140°F (60°C). Avoid charging below freezing temperatures.
- Keep out of reach of children.
- This battery is not designed for use in golf carts or automotive starting applications.



Image: This battery is not suitable for use in golf carts or automotive applications.



Image: Recommended operating temperature range for the battery, from -4°F (-20°C) to 140°F (60°C).

3. PRODUCT OVERVIEW

The Ingeosolly 24V 150Ah LiFePO₄ Lithium Battery is a high-performance, deep-cycle battery designed for reliability and longevity. It features automotive-grade cells and an advanced Battery Management System (BMS) for enhanced safety and performance.

Key Features:

- **Space-Saving & Lightweight:** Significantly smaller and 50% lighter than comparable lead-acid batteries, making it ideal for mobile applications.
- **Enhanced Energy Output:** Provides 2X the energy compared to a 12V 150Ah battery, simplifying system design by potentially replacing multiple smaller batteries.
- **Automotive-Grade Cells:** Built with high-quality cells for ultra-low self-discharge and consistent performance.
- **Advanced BMS Protection:** Integrated system protects against overcharge, over-discharge, overcurrent, short circuit, high temperature, and low temperature.
- **Durable & Weatherproof:** Features an ABS flame-retardant plastic housing and an IP65 protection rating, ensuring resistance to dust and water ingress.
- **Long Lifespan:** Offers 8000+ deep cycles and a 10-year service life, outlasting lead-acid batteries by 8 to 10 times.
- **Wide Operating Voltage:** Compatible with various systems, featuring an operating voltage of 25.6V and a charging voltage of 28.8V $\pm$ 0.4V.



Image: A front-angled view of the Ingeosolly 24V 150Ah LiFePO4 Lithium Battery, showcasing its black casing and the vibrant blue and orange label.

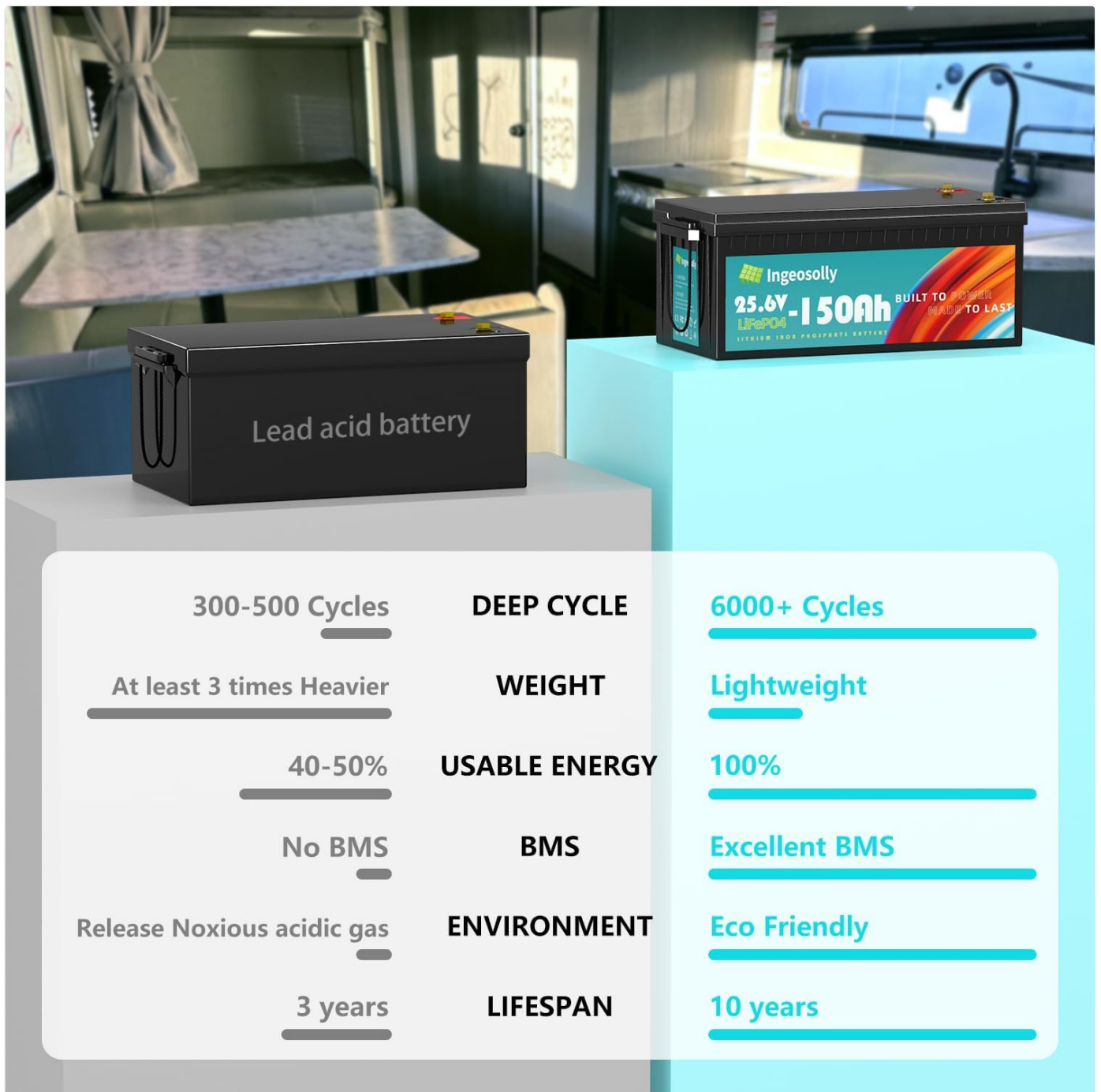


Image: An illustration comparing the Ingeosolly LiFePO4 battery with a traditional lead-acid battery, highlighting its superior cycle life, weight, usable energy, BMS, environmental impact, and lifespan.

One 24V 150Ah Battery > Three 24V 50Ah Batteries in Parallel
Two 12V 150Ah Batteries in Series



Image: An infographic demonstrating that one Ingeosolly 24V 150Ah LiFePO4 battery offers a more streamlined solution than combining multiple smaller batteries.

GRADE A CELLS & MULTIPACT PROTECTIONS BMS



Image: An exploded view of the Ingeosolly LiFePO4 battery, showing its internal Grade A cells and the Battery Management System (BMS) board with various protection icons.

4. SPECIFICATIONS

Parameter	Value
Model Number	IN-24V150Ah
Nominal Voltage	25.6V
Nominal Capacity	150Ah
Energy	3840Wh
Charging Voltage	28.8V $\pm$ 0.4V

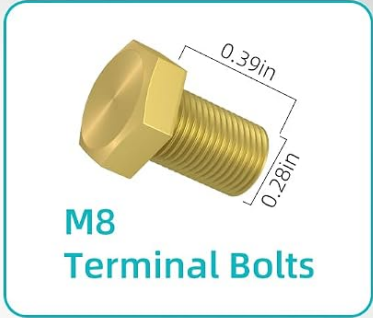
Parameter	Value
Cycle Life	8000+ cycles (@100% DOD)
Lifespan	10 Years
Dimensions (L x W x H)	522 x 240 x 218 mm (20.55 x 9.45 x 8.58 inches)
Weight	28.7 kg (63.8 lbs)
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
Protection Rating	IP65 (Dust and Water Resistant)
Terminal Type	M8 Terminal Bolts
Recommended Uses	RV, Marine, Solar Power, Backup Energy, Trolling Motor, Off-grid systems

3840Wh
NOMINAL CAPACITY

**LIGHTER, SMALLER
AND SMARTER**

Size: 522*240*218 MM/20.55*9.45*8.58 IN

53.13lb±1%



U.S. Local Warehouse



Specialize For 10+ Years



Technical Aftersales Service



Respond Within 24hrs



Professional & Friendly Customer Service

Image: Detailed dimensions of the Ingeosolly 24V 150Ah LiFePO4 battery and specifications for the M8 terminal bolts.



Image: A visual representation of the battery's key specifications including voltage, capacity, weight, size, and energy.

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your LiFePO4 battery. Always consult a qualified professional if you are unsure about any steps.

General Guidelines:

- **Location:** Install the battery in a clean, dry, and well-ventilated area, protected from direct sunlight and extreme temperatures. The IP65 rating provides protection against dust and water splashes, but avoid submersion.
- **Mounting:** The battery can be placed in any orientation (360-degree placement) due to its sealed design. Ensure it is secured to prevent movement during operation.
- **Connections:** Use appropriate gauge cables and connectors for your application to minimize voltage drop and heat generation. Ensure all connections are tight and secure.
- **Parallel Connection:** This battery supports parallel connection for increased capacity, up to a maximum of four (4) units. When connecting in parallel, ensure all batteries are of the same voltage and capacity, and are at a similar state of charge before connecting. Use appropriate bus bars or cables for parallel connections.
- **Series Connection:** **DO NOT connect this battery in series.** Series connection is not supported and can damage the battery or connected equipment.
- **System Integration:** When integrating with solar panels, inverters, or other components, follow the manufacturer's instructions for each device.

COLD RESISTANT & WATERPROOF & HEAT-RESISTING

Perfect design for outdoor activities



-4°F (-20°C)



140°F (60°C)



IP65 WATERPROOF Meets daily waterproofing requirements
the temperature between 10°C to 35°C / 50°F to 95°F is ideal for long-term storage

Image: A diagram illustrating a typical off-grid power system setup, connecting a solar panel to an MPPT controller, which charges the Ingeosolly LiFePO4 battery. The battery then powers an inverter, which supplies electricity to household appliances.

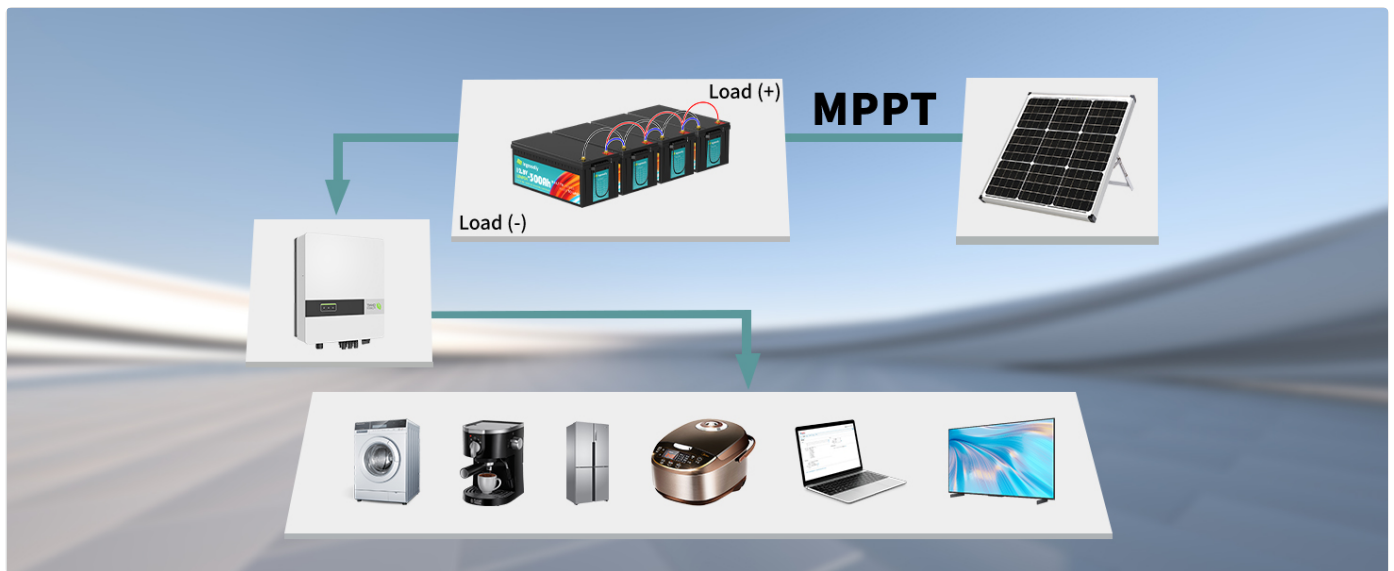


Image: This graphic highlights that parallel connection is supported (up to 4 units), but series connection is not.

6. OPERATION

The Ingeosolly 24V 150Ah LiFePO4 battery is designed for deep cycle applications, providing consistent power for extended periods. Its integrated BMS manages charging and discharging to optimize performance and lifespan.

Recommended Applications:

- **Recreational Vehicles (RVs):** Powering onboard appliances and systems.
- **Marine:** Ideal for trolling motors, fish finders, and other boat electronics.
- **Solar Power Systems:** Energy storage for off-grid or grid-tied solar installations.
- **Backup Power:** Reliable power source for homes or critical systems during outages.
- **Camping & Outdoor Activities:** Portable power for lights, devices, and small appliances.

Connection of Solar Panel (MPPT) and Battery

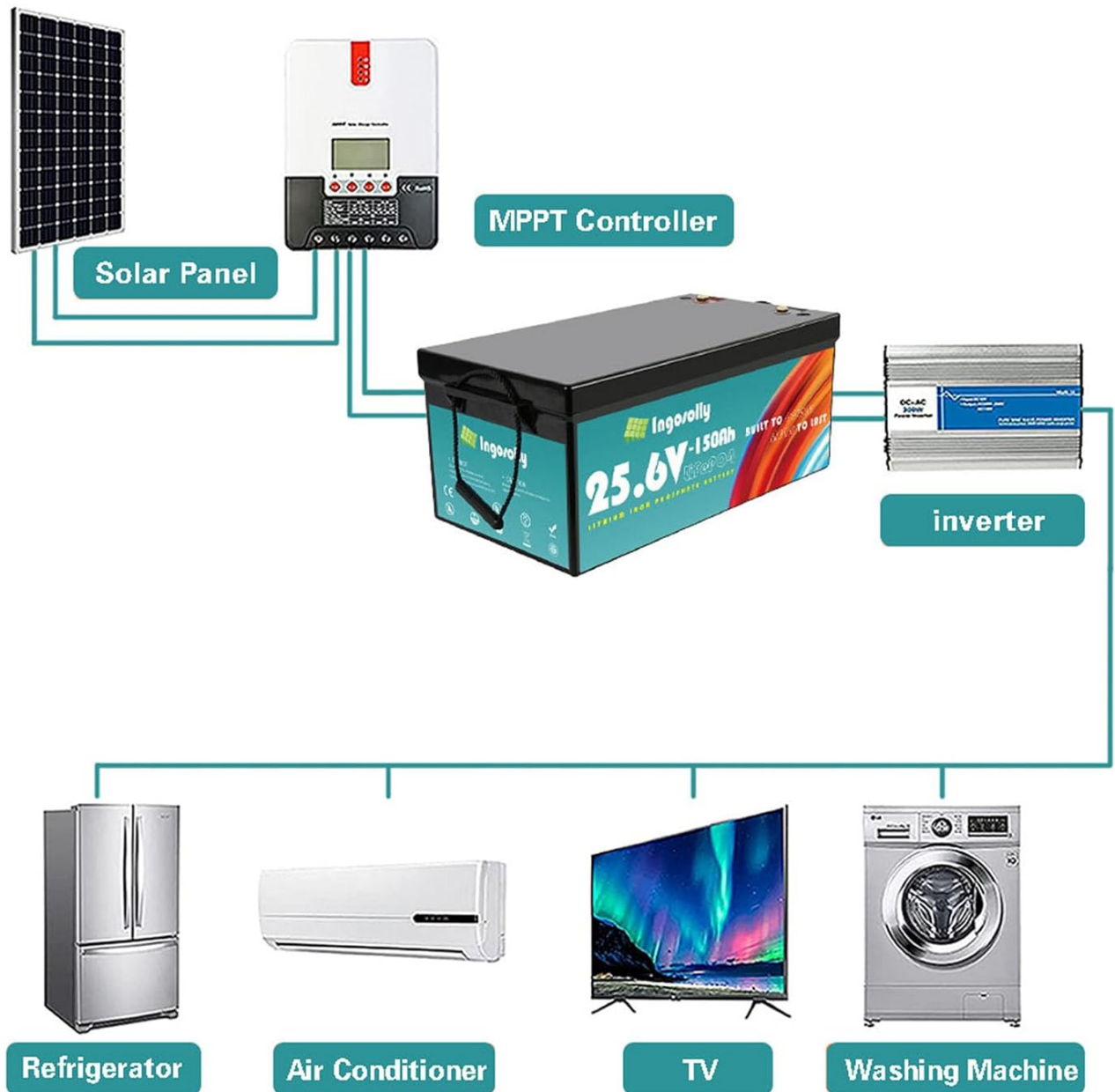


Image: A collage showing the Ingeosolly LiFePO4 battery in various applications, including RVs, solar systems, camping, and powering trolling motors.

7. CHARGING METHODS

To ensure optimal performance and longevity, use appropriate charging methods for your LiFePO4 battery.

Compatible Charging Methods:

- **Solar Panel with MPPT Controller:** Recommended for solar charging systems. Ensure your solar panel array is rated at >400W for efficient charging. The MPPT controller will regulate the voltage and current to the battery.
- **Dedicated LiFePO4 Charger:** Use a charger specifically designed for 24V LiFePO4 batteries. The recommended charge voltage is $28.8V \pm 0.4V$.
- **Generator with DC to DC Charger:** If using a generator, an appropriate DC to DC charger is required to convert the generator's output to the correct voltage and current for LiFePO4 batteries.

Note: This battery does not include a charger. Please purchase a compatible LiFePO4 charger separately.

3 CHARGING METHODS

Solar Panel+MPPT

Recommend >400W Within

Charge Voltage

14.4V±0.2V

Generator

Add a DC to DC Charger

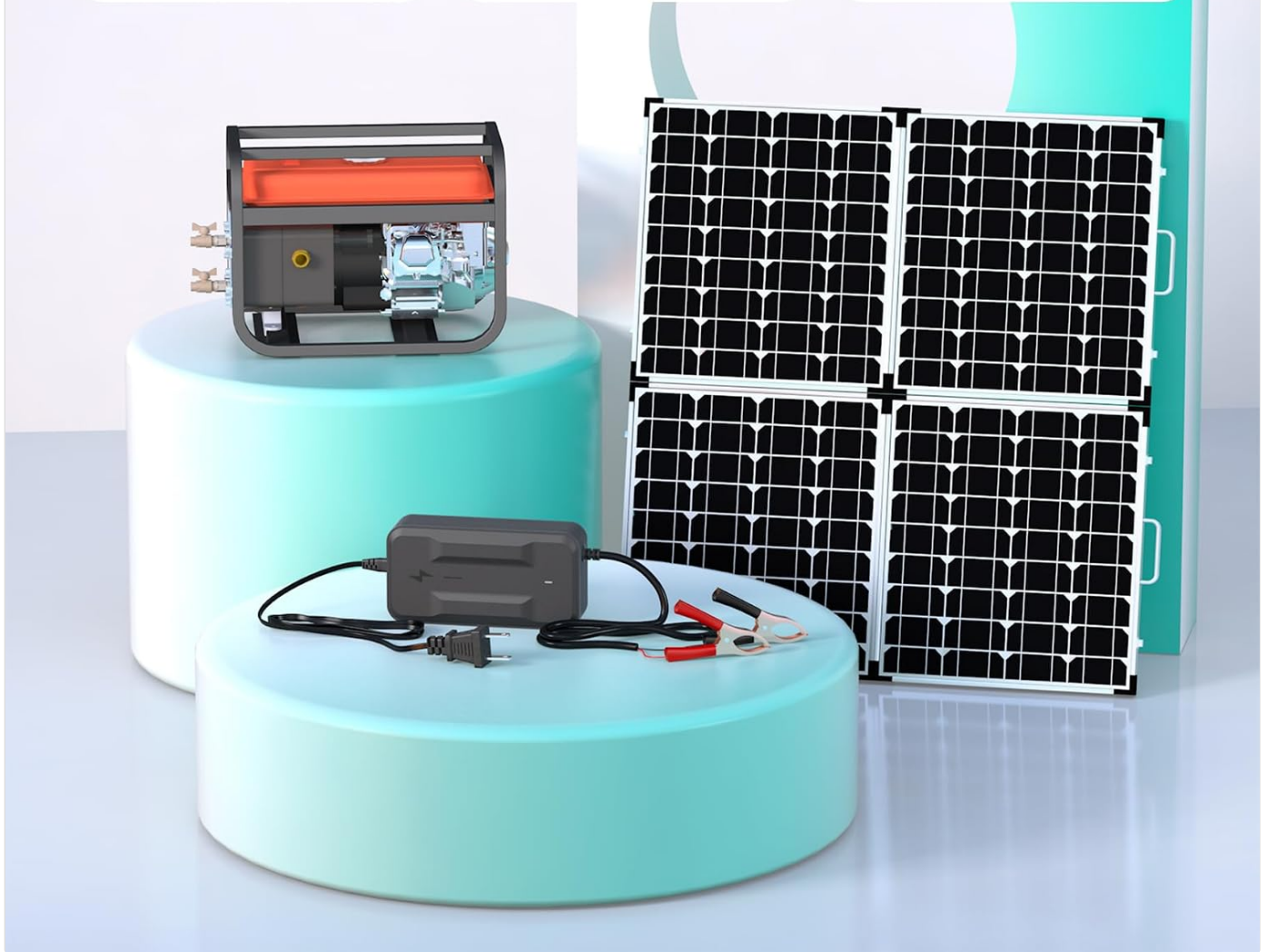


Image: An illustration detailing three methods to charge the Ingeosolly LiFePO4 battery: solar panel with MPPT, a dedicated charger, and a generator with a DC to DC charger.

8. MAINTENANCE

LiFePO4 batteries require minimal maintenance compared to lead-acid batteries, but following these guidelines will ensure maximum lifespan and performance.

- **Regular Inspection:** Periodically check the battery terminals for corrosion or loose connections. Clean terminals with a wire brush if necessary and ensure they are tightened to specification.
- **Cleaning:** Keep the battery casing clean and free of dust and debris. Use a dry cloth for cleaning.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% of its capacity. Store in a cool, dry place within the recommended temperature range (-4°F to 140°F).
- **Avoid Deep Discharge:** While the BMS protects against over-discharge, consistently running the battery to its

lowest voltage can reduce its overall lifespan.

- **Temperature Management:** Avoid operating or charging the battery in extreme temperatures outside the specified range. The BMS provides protection, but prolonged exposure to harsh conditions can affect performance.

9. TROUBLESHOOTING

If you encounter issues with your Ingeosolly LiFePO4 battery, refer to the following common troubleshooting steps. The integrated BMS is designed to protect the battery, and some issues may be due to its activation.

Common Issues and Solutions:

- **Battery Not Charging:**
 - Check all cable connections for tightness and proper polarity.
 - Verify that the charger is compatible with LiFePO4 batteries and is functioning correctly.
 - Ensure the charging voltage is within the specified range ($28.8V \pm 0.4V$).
 - The BMS may have activated over-discharge protection. Try connecting to a charger to reset.
- **No Power Output:**
 - Check battery voltage with a multimeter. If very low, the BMS may have activated over-discharge protection.
 - Inspect all connections to the load for looseness or corrosion.
 - The BMS may have activated overcurrent or short-circuit protection. Disconnect the load, wait a few minutes, and reconnect. Reduce the load if it exceeds the battery's continuous discharge current.
- **Battery Overheating:**
 - Disconnect the battery from the charger and load immediately.
 - Ensure the battery is in a well-ventilated area.
 - The BMS will activate high-temperature protection. Allow the battery to cool down before resuming operation.
- **Reduced Capacity/Lifespan:**
 - Ensure the battery is not consistently deep-discharged or overcharged.
 - Verify that the charging parameters are correct.
 - Operating in extreme temperatures can impact lifespan.

If these steps do not resolve the issue, please contact Ingeosolly customer support for assistance.

10. WARRANTY AND SUPPORT

Ingeosolly is committed to providing high-quality products and excellent customer service.

- **Warranty:** Your Ingeosolly 24V 150Ah LiFePO4 Lithium Battery comes with a **5-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use.
- **Lifespan:** With proper care and usage, this battery is designed to provide a service life of **10 years** or more.
- **Customer Support:** For any questions, technical assistance, or warranty claims, please contact our 24-hour customer service team. We have local warehouses to ensure efficient support.
- **Contact Information:** Please refer to your purchase documentation or visit the official Ingeosolly website for the most current contact details.

We are dedicated to ensuring your satisfaction and will work to provide a satisfactory solution to any concerns you may

have.

11. DISPOSAL

LiFePO4 batteries contain valuable materials and should be recycled responsibly. Do not dispose of the battery in household waste. Please follow local regulations for battery recycling and disposal. Contact your local waste management facility or recycling center for information on proper disposal methods.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question