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› Ingeosolly 12V 200Ah LiFePO4 Lithium Battery User Manual

Ingeosolly 12V200Ah

Ingeosolly 12V 200Ah LiFePO4 Lithium Battery User Manual

Model: 12V200Ah

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Ingeosolly 12V 200Ah LiFePO4 Lithium Battery. Please read this manual thoroughly before using the product and retain it for future reference.

2. PRODUCT OVERVIEW

2.1 Key Features

- **High Capacity:** 12V 200Ah (2560Wh) LiFePO4 battery.
- **Integrated BMS:** Built-in 200A Battery Management System for protection against overcharging, over-discharging, over-current, overheating, and short circuits.
- **Long Cycle Life:** Offers 8000+ cycles, providing a service life of up to 10 years.
- **Expandable System:** Supports up to 4 batteries in series and 4 in parallel (Max. 4S4P) for increased capacity (Max. 800Ah) and higher voltage (24V, 36V, 48V).
- **Durable Construction:** Black ABS flame-retardant plastic housing, IP65 waterproof, and drop-resistant.
- **Flexible Placement:** Designed for 360-degree placement.
- **Wide Temperature Range:** Cold resistant down to -4°F (-20°C) and heat resistant up to 140°F (60°C) for discharge.

2.2 What's in the Box

- 1x Ingeosolly 12V 200Ah LiFePO4 Lithium Battery
- 1x 14.6V 7A Charger



Figure 1: Ingeosolly 12V 200Ah LiFePO4 Lithium Battery with its dedicated 14.6V 7A charger.

UPGRADED **200A** BMS MANAGEMENT SYSTEM MULTIFUNCTIONAL BATTERY

**AUTO BMS
PROTECTION**

**A+ GRADE
BATTERY**

Overvoltage

**4000+ cycles
at 100% DOD**

Undervoltage

Overheating

**8000+ cycles
at 80% DOD**

Overcurrent

**15,000+ cycles
at 60% DOD**

Short Circuits



Figure 2: Illustration of the upgraded 200A BMS management system, highlighting protections against overvoltage, undervoltage, overheating, overcurrent, and short circuits.

IP65 WATERPROOF AND DROP-RESISTANT



Can be placed at any angle 360°

IP65

Figure 3: Comparative features between Ingeosolly LiFePO4 batteries and traditional Lead-Acid batteries, highlighting advantages such as lighter weight, longer lifespan, more cycles, integrated BMS, and eco-friendliness.

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

Figure 4: The battery's resilience to extreme temperatures, indicating cold resistance down to -4°F (-20°C) and heat resistance up to 140°F (60°C).

3. SAFETY INSTRUCTIONS

Adherence to these safety guidelines is crucial for preventing injury and damage to the battery. Failure to follow these instructions may void the warranty.

- Do not disassemble, puncture, or modify the battery.
- Avoid exposing the battery to fire, direct sunlight, or extreme temperatures outside the recommended operating range.
- Use only the provided charger or a compatible LiFePO4 charger with appropriate voltage and current settings.
- Ensure proper ventilation during charging and operation.
- Keep the battery away from water unless specifically designed for marine use and properly sealed. This battery is IP65 rated, offering protection against dust and low-pressure water jets, but it is not submersible.
- Do not short-circuit the battery terminals.

- Keep out of reach of children.
- In case of fire, use a Class D fire extinguisher. Water may not be effective.
- Consult a qualified professional for installation in complex systems.

4. SETUP

4.1 Initial Inspection

Upon receiving your battery, inspect it for any signs of physical damage. If damage is observed, contact customer support immediately.

4.2 Terminal Connection

Connect your load or charging system to the battery terminals. Ensure connections are secure and correct polarity is observed (positive to positive, negative to negative). Loose connections can cause overheating and damage.

- The battery uses M8 terminal bolts.
- Tighten terminal bolts to the recommended torque specifications to ensure good electrical contact.

4.3 Series and Parallel Connection (Optional)

The Ingeosolly 12V 200Ah LiFePO4 battery supports up to 4 batteries in series and 4 in parallel (Max. 4S4P) for increased capacity and voltage. When connecting batteries in series or parallel:

- Ensure all batteries are of the same brand, model, and capacity.
- Charge all batteries to the same voltage level before connecting them.
- Use appropriate cables and fuses for the combined voltage and current.
- For series connections, connect the positive terminal of one battery to the negative terminal of the next.
- For parallel connections, connect positive terminals together and negative terminals together.
- The auto-balancing function enhances long-term charging efficiency in series/parallel configurations.

5. OPERATING INSTRUCTIONS

5.1 Charging the Battery

Use the provided 14.6V 7A charger or a compatible LiFePO4 charger. The battery is designed for energy storage and is not suitable for starting applications. Maximum discharge current is 1C (200A for this 200Ah battery).



Figure 5: Overview of common charging methods for the battery, including a dedicated battery charger, solar panels, and a generator.

- Connect the charger to the battery terminals, ensuring correct polarity.
- Plug the charger into a power source.
- Monitor the charging process. The charger typically has an indicator light to show charging status.
- Disconnect the charger once the battery is fully charged.
- Recommended charging temperature range: 0°C to 45°C (32°F to 113°F).

5.2 Discharging the Battery

Connect your appliances or system to the battery terminals. The built-in BMS will protect the battery from over-discharge. The maximum continuous discharge current is 200A.

- Operating temperature range: -20°C to 60°C (-4°F to 140°F).
- Avoid drawing current exceeding the maximum continuous discharge rating.

5.3 Typical Applications

This battery is suitable for a wide range of deep cycle applications:



				
Refrigerator (100W)	Coffee Maker (800W)	Hay mower (450W)	Television (200W)	Water Pump (500W)
25.6hrs	3.2hrs	5.6hrs	12.8hrs	5.1hrs

Figure 6: Visual representation of various applications for the Ingeosolly LiFePO4 battery, including RVs, solar systems, camping, and trolling motors.

- Recreational Vehicles (RVs)
- Solar Energy Storage Systems
- Marine Applications (Trolling Motors, Boats)
- Off-Grid Systems

- Camping and Portable Power
- Backup Power for various appliances

6. MAINTENANCE

Proper maintenance ensures the longevity and performance of your LiFePO4 battery.

- **Regular Inspection:** Periodically check the battery terminals for corrosion or loose connections. Clean terminals if necessary.
- **Storage:** If storing the battery for an extended period, charge it to approximately 50-70% capacity. Store in a cool, dry place, away from direct sunlight and extreme temperatures. Recommended storage temperature: -10°C to 35°C (14°F to 95°F).
- **Charging Frequency:** For long-term storage, recharge the battery every 3-6 months to prevent deep discharge.
- **Cleaning:** Clean the battery casing with a dry or slightly damp cloth. Do not use solvents or abrasive cleaners.

7. TROUBLESHOOTING

This section addresses common issues you might encounter. For problems not listed here, contact customer support.

Problem	Possible Cause	Solution
Battery not charging	Charger not connected, faulty charger, BMS protection activated (over-discharge, over-voltage)	Check charger connection and power supply. Verify charger functionality. If BMS is active, allow battery to rest or attempt a low-current charge to reset.
Battery not discharging / No power output	Loose connections, BMS protection activated (over-discharge, over-current, short circuit), battery fully discharged	Check all cable connections and ensure they are tight. Verify load current is within limits. Recharge the battery.
Reduced capacity or runtime	Battery not fully charged, aging, operating in extreme temperatures	Ensure full charge cycles. Verify operating temperature is within recommended range.
Battery overheating	Excessive discharge/charge current, poor ventilation, high ambient temperature	Reduce load/charge current. Ensure adequate ventilation around the battery. Move to a cooler environment if possible. The BMS will typically shut down the battery if temperatures exceed safe limits.

8. SPECIFICATIONS

Feature	Specification
Model	12V200Ah
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	12.8V
Nominal Capacity	200Ah

Feature	Specification
Energy	2560Wh
Built-in BMS	200A
Max Continuous Discharge Current	200A (1C)
Cycle Life	8000+ cycles (at 80% DOD)
Dimensions (L x W x H)	20.88" x 8.12" x 8.59" (530mm x 206mm x 218mm)
Weight	44.53 lbs (20.2 kg) ±1%
Terminal Type	M8
Operating Temperature (Discharge)	-20°C to 60°C (-4°F to 140°F)
Operating Temperature (Charge)	0°C to 45°C (32°F to 113°F)
Storage Temperature	-10°C to 35°C (14°F to 95°F)
Waterproof Rating	IP65
Max Series/Parallel Configuration	4S4P (Max. 40.96KWH)

2560Wh
NOMINAL CAPACITY

**LIGHTER, SMALLER
AND SMARTER**

Size: 530*206*218 MM/20.88*8.12*8.59 IN

44.53lb ± 1%



U.S. Local
Warehouse



Specialize
For 10+ Years



Technical
Aftersales Service



Respond
Within 24hrs



Professional & Friendly
Customer Service

Figure 7: Detailed dimensions of the Ingeosolly 12V 200Ah LiFePO4 battery, including length, width, height, and M8 terminal bolt size.

9. WARRANTY AND SUPPORT

Ingeosolly provides a **Five Year Warranty** for this product. This warranty covers defects in materials and workmanship under normal use.

For warranty claims, technical assistance, or any questions regarding your Ingeosolly battery, please contact our customer service team. Ingeosolly has local warehouses and a maintenance team in the US to provide support. Contact information can typically be found on the product packaging or the official Ingeosolly website.

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