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› WattCycle 12V 20Ah LiFePO4 Battery Instruction Manual

Wattcycle WT12V20AH

WattCycle 12V 20Ah LiFePO4 Battery User Manual

Model: WT12V20AH

1. INTRODUCTION

Thank you for choosing the WattCycle 12V 20Ah LiFePO4 Battery. This battery is designed for various applications requiring reliable and stable power, including children's toys, security cameras, fish finders, and more. It features advanced safety mechanisms and a long cycle life for dependable performance.



Image: The WattCycle 12V 20Ah LiFePO4 battery, a compact and lightweight power solution.

2. SAFETY INFORMATION

Always read and understand all safety instructions before using the battery. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Do not short-circuit the battery terminals.
- Do not expose the battery to fire or extreme heat.
- Do not immerse the battery in water or other liquids.
- Do not disassemble, crush, or puncture the battery.
- Use only compatible chargers designed for LiFePO4 batteries.
- Keep the battery away from children and pets.
- Ensure proper ventilation when charging or discharging.

Battery Management System (BMS)

This battery is equipped with an advanced 20A BMS (Battery Management System) for enhanced safety and longevity. The BMS protects against:

- Overcharging

- Over-discharging
- Overcurrent
- Overheating
- Low temperatures (automatic shutdown)
- Short circuits



Image: Diagram illustrating the various protections offered by the 20A Intelligent BMS, including over-charging, over-discharging, overcurrent, overheating, short circuits, and low-temp protection.

3. WHAT'S IN THE BOX

Upon opening your WattCycle 12V 20Ah LiFePO4 Battery package, you should find the following items:

- 1 x WattCycle 12V 20Ah LiFePO4 Battery
- 1 x User Manual (this document)
- 4 x M5 Screws

Your browser does not support the video tag.

Video: An unboxing demonstration of the WattCycle 12V 20Ah LiFePO4 battery, showing the contents of the package including the battery, user manual, and M5 screws.

4. SETUP AND CONNECTION

4.1 Initial Inspection

Before installation, inspect the battery for any physical damage. Ensure the terminals are clean and free of debris.

4.2 Connecting to a Charger

To charge the battery, connect a compatible LiFePO4 charger to the battery terminals. Ensure correct polarity: positive (+) to positive, and negative (-) to negative. Secure the connections using the provided M5 screws.

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Video: A demonstration of connecting the WattCycle 12V 20Ah LiFePO4 battery to a charger, highlighting the use of M5 screws for secure terminal connections.

4.3 Series and Parallel Connection

The WattCycle 12V 20Ah LiFePO4 battery supports up to 4S4P connections, allowing for increased voltage or capacity. Always consult a qualified professional for complex wiring configurations to ensure safety and optimal performance.

Series & Parallel Connection MAX-4096Wh

Supports up to 4S4P connection

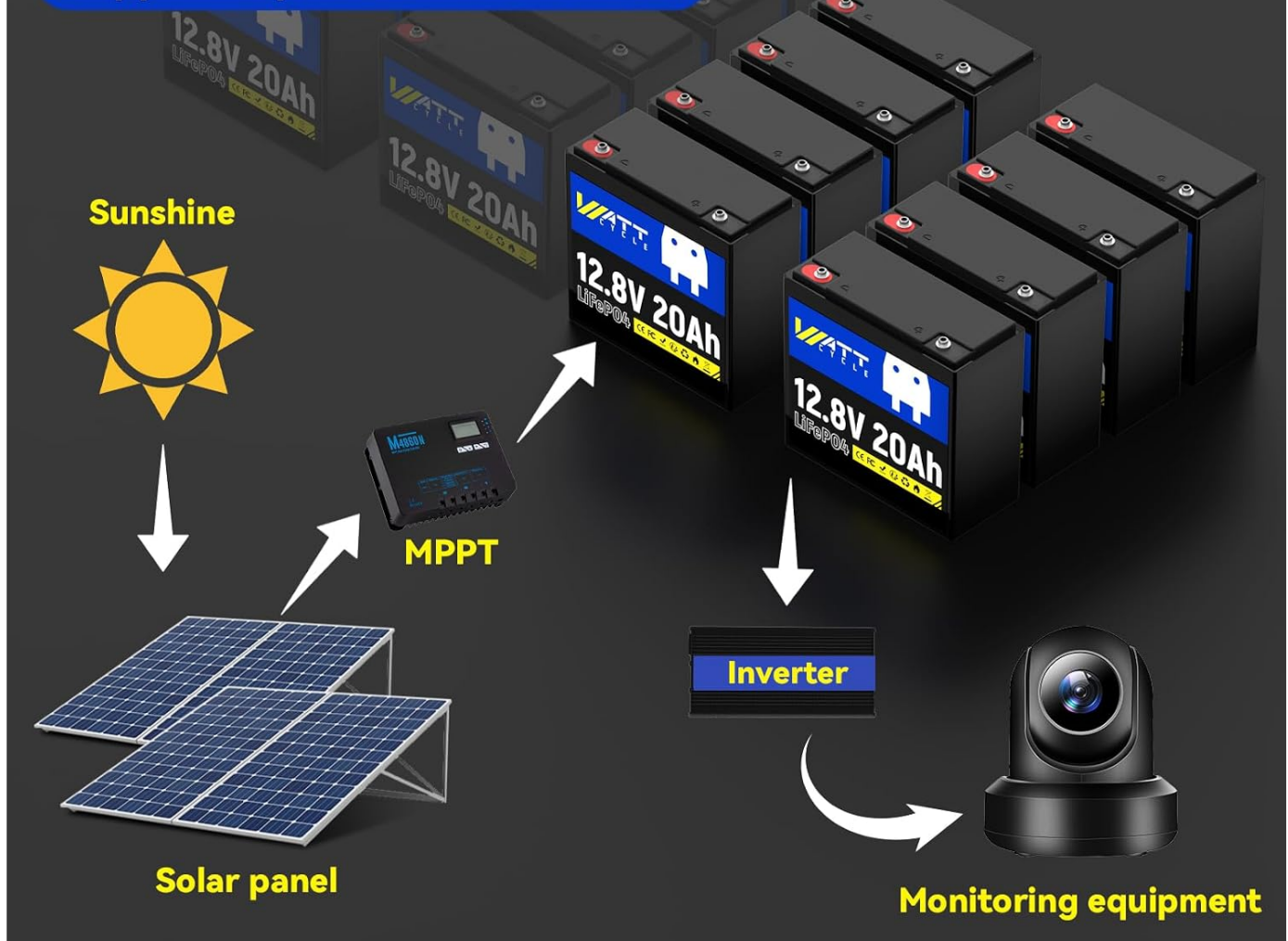


Image: A diagram illustrating how multiple WattCycle 12.8V 20Ah batteries can be connected in series and parallel to create a larger battery bank, supporting up to 4S4P configurations for solar panel and monitoring equipment applications.

5. OPERATING INSTRUCTIONS

5.1 Charging

Use a dedicated LiFePO4 charger with a charge voltage of 14.6V and a float voltage of 13.8V. The BMS will manage the charging process to prevent overcharging. Ensure the charger's current output is appropriate for the battery's capacity.

5.2 Discharging

The battery is designed for deep cycle applications. The BMS will initiate a low voltage disconnect at 8.8V to protect the cells from deep discharge. Avoid exceeding the maximum continuous discharge current specified in the technical data.

5.3 Temperature Considerations

The battery features low-temperature protection. It will automatically shut off if the temperature drops below the safe

charging or discharging range to prevent damage. The recommended operating temperature range is -4°F to 158°F (-20°C to 70°C) for discharging and 32°F to 149°F (0°C to 65°C) for charging.



Low-temperature Protection

Charging:

32°F (0°C) ±149°F (65°C)

Discharging:

-4°F (-20°C) ±158°F (70°C)

Image: A visual representation of the low-temperature protection feature, showing the safe charging temperature range (32°F to 149°F) and discharging temperature range (-4°F to 158°F) for the WattCycle 12.8V 20Ah battery, with a person fishing in a cold environment.

6. MAINTENANCE

LiFePO4 batteries require minimal maintenance compared to other battery types. Follow these guidelines to ensure optimal performance and lifespan:

- **Regular Inspection:** Periodically check the battery terminals for corrosion or loose connections. Clean terminals with a wire brush if necessary.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50% state of charge and stored in a cool, dry place. Avoid storing in direct sunlight or extreme temperatures.
- **Cleaning:** Keep the battery casing clean and dry. Use a soft, damp cloth to wipe down the exterior. Do not use

harsh chemicals or abrasive cleaners.

7. TROUBLESHOOTING

If you encounter issues with your WattCycle LiFePO4 battery, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Battery not charging	Incorrect charger, loose connections, low temperature, BMS protection activated	Ensure compatible LiFePO4 charger is used. Check all connections for tightness. Move battery to a warmer environment if below 0°C. Contact support if BMS fault is suspected.
Battery not discharging/no power output	Over-discharge protection, short circuit, loose connections, low temperature	Charge the battery. Check for short circuits in the load. Verify all connections. Move battery to a warmer environment if below -20°C.
Reduced capacity or runtime	Aging battery, improper charging, high load, extreme temperatures	Ensure full charge cycles. Reduce load if possible. Operate within recommended temperature ranges. If battery is old, consider replacement.

If the problem persists after attempting these solutions, please contact WattCycle customer support.

8. SPECIFICATIONS

Below are the technical specifications for the WattCycle 12V 20Ah LiFePO4 Battery:

Feature	Specification
Brand	Wattcycle
Model Number	WT12V20AH
Voltage	12 Volts
Capacity	20Ah
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
Item Weight	4.4 Pounds (approx. 2 kg)
Product Dimensions (D x W x H)	7.2" x 3.3" x 6" (18.3cm x 8.4cm x 15.2cm)
Number of Cells	4
BMS	Built-in 20A BMS
Low-Temperature Protection	Yes
Cycle Life	Up to 15,000 cycles
Charge Voltage	14.6V
Float Voltage	13.8V
Low Voltage Disconnect	8.8V

Feature	Specification
Operating Temperature (Discharging)	-4°F to 158°F (-20°C to 70°C)
Operating Temperature (Charging)	32°F to 149°F (0°C to 65°C)



Image: The WattCycle 12.8V 20Ah LiFePO4 battery with its dimensions (7.2 inches length, 3.3 inches width, 6 inches height) and weight (5.73 lbs) clearly marked, highlighting its compact and lightweight design.

9. WARRANTY AND SUPPORT

WattCycle LiFePO4 batteries come with a **5-year manufacturer's warranty**, covering manufacturing defects. Our technical support team is dedicated to assisting you with any concerns or inquiries. For product support, troubleshooting, or warranty claims, please contact us directly through the Amazon platform. Our team aims to respond within 24 hours.

Your browser does not support the video tag.

Video: An overview video showcasing the WattCycle 12V 20Ah LiFePO4 Battery, its features, and various applications, emphasizing its reliability and sustainability.

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Details

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

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