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- › GOLDENMATE /
- › GOLDENMATE 12V 20Ah LiFePO4 Battery Instruction Manual (Model CRIUS 20)

GOLDENMATE CRIUS 20

GOLDENMATE 12V 20Ah LiFePO4 Battery Instruction Manual

Model: CRIUS 20

1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your GOLDENMATE 12V 20Ah LiFePO4 Battery. Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of your battery. This battery is designed for various applications including solar energy systems, marine use, fish finders, off-grid camping, and other 12V power needs.

2. SAFETY INFORMATION

Always prioritize safety when handling batteries. Failure to follow these guidelines may result in damage to the battery, equipment, or personal injury.

- Use only compatible LiFePO4 battery chargers. Using an incompatible charger can damage the battery and pose a safety risk.
- Do not short-circuit the battery terminals. This can cause severe damage to the battery and create a fire hazard.
- Avoid exposing the battery to extreme temperatures outside its specified operating range.
- Do not disassemble, crush, or puncture the battery.
- Ensure proper ventilation when charging or discharging the battery.
- Keep the battery away from water unless specifically designed for waterproof applications (this model is IP67 rated, but proper terminal sealing is still important).
- In case of fire, use a Class D fire extinguisher. Water or other types of extinguishers may exacerbate the situation.

3. PRODUCT FEATURES

- **Superior Performance:** This 12V 20Ah LiFePO4 battery offers high energy density and a long cycle life. It includes a built-in 20A Battery Management System (BMS) for protection against overcharging, over-

discharging, over-current, and short circuits. A low self-discharge rate allows for storage up to one year without significant capacity loss.

- **Lightweight & IP67 Waterproof:** Weighing approximately 5.95 pounds, this battery is designed for portability. Its IP67 waterproof rating ensures protection against dust and water, making it suitable for both indoor and outdoor use in various environments.
- **5000+ Cycles & Long Lifespan:** Constructed with high-quality lithium cells, the battery is engineered for over 5,000 charge cycles, providing reliable performance for an extended period compared to conventional battery technologies.
- **Flexible Expansion & Reliable Power Source:** The battery supports expansion by connecting up to four units in series or parallel. This allows for increased voltage (up to 51.2V) or capacity (up to 80Ah) to meet diverse power requirements. It supports a continuous discharge of up to 10A.
- **Easy to Recharge & Low Maintenance:** Recharging is straightforward using a compatible LiFePO4 charger, solar panel with MPPT, or a generator. It supports a maximum charge current of 10A for quick recharge times. Unlike lead-acid batteries, it requires no regular maintenance.

4. WHAT'S IN THE BOX

- 12.8V 20Ah LiFePO4 Battery (2 units)

5. SETUP AND INSTALLATION

Before connecting the battery, ensure all equipment is turned off and disconnected from any power source.

1. **Terminal Connections:** Connect the positive (+) terminal of the battery to the positive (+) terminal of your device or charging system. Connect the negative (-) terminal of the battery to the negative (-) terminal of your device or charging system. Ensure connections are secure to prevent arcing or poor performance.
 2. **Series and Parallel Connections:** For increased voltage or capacity, up to four batteries can be connected in series or parallel.
 - **Parallel Connection:** Connect positive to positive and negative to negative terminals across multiple batteries to increase total capacity (Ah) while maintaining the same voltage (12.8V).
 - **Series Connection:** Connect the positive terminal of one battery to the negative terminal of the next battery to increase total voltage (e.g., two 12.8V batteries in series yield 25.6V) while maintaining the same capacity (Ah).
- **Ventilation:** Although LiFePO4 batteries do not off-gas like lead-acid batteries, ensure adequate ventilation around the battery, especially during charging, to prevent heat buildup.

6. OPERATING INSTRUCTIONS

The GOLDENMATE LiFePO4 battery is designed for ease of use and reliable power delivery.

- **Charging:** Use a dedicated LiFePO4 battery charger. The maximum recommended charge current is 10A. Charging can also be performed via solar panels with an MPPT controller or a generator.
- **Discharging:** The battery supports a continuous discharge current of up to 10A. The built-in BMS will protect the battery from over-discharge.
- **Operating Temperature:** The battery is designed to operate within a wide temperature range. Refer to the specifications section for detailed temperature limits for charging and discharging.

7. MAINTENANCE

One of the key advantages of LiFePO₄ batteries is their low maintenance requirements.

- **No Watering:** Unlike lead-acid batteries, LiFePO₄ batteries do not require periodic watering.
- **Cleaning:** Keep the battery terminals clean and free from corrosion. Use a dry cloth to wipe down the battery casing as needed.
- **Storage:** For long-term storage, ensure the battery is charged to approximately 75% capacity and recharge every 6 months. The low self-discharge rate allows for extended storage periods.

8. TROUBLESHOOTING

If you encounter issues with your GOLDENMATE LiFePO₄ battery, consider the following common troubleshooting steps:

- **Battery Not Charging:**
 - Verify that the charger is specifically designed for LiFePO₄ batteries and is functioning correctly.
 - Check all connections between the charger and the battery for proper contact and polarity.
 - Ensure the battery's internal BMS has not activated a protection mode (e.g., due to extreme temperature or over-discharge). Allow the battery to return to a safe operating temperature or connect to a compatible charger to reset the BMS.
- **Battery Not Providing Power:**
 - Check the battery's state of charge. A fully discharged battery will not provide power.
 - Inspect all connections to the load for looseness or corrosion.
 - Confirm that the load's power requirements do not exceed the battery's continuous discharge rate (10A). Overloading can trigger BMS protection.
- **Unusual Heat During Operation:**
 - Immediately disconnect the battery from the load and charger.
 - Allow the battery to cool down in a well-ventilated area.
 - Check for short circuits in the wiring or connected devices. If the issue persists, contact customer support.

9. SPECIFICATIONS

Specification	Value
Brand	GOLDENMATE
Model	CRIUS 20
Size	12V 20Ah (2 Pack)
Product Dimensions	2.99"D x 7.13"W x 6.61"H
Item Weight	11.88 pounds
Number Of Cells	2
Resistance	50 Milliohms
Terminal	M6
Batteries Required	2 Lithium Ion batteries (included)
IP Rating	IP67 Waterproof
BMS Protection	Built-in 20A BMS (Overcharge, Over-discharge, Over-current, Short-circuit)
Cycle Life	5000+ Cycles
Max Charge Current	10A
Continuous Discharge	Up to 10A

10. WARRANTY AND SUPPORT

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

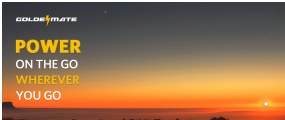
- **10-Year Lifetime:** Our products are designed for a 10-year lifetime when used correctly according to the manual instructions.
- **Customer Service:** Our customer service team is available to assist with product information, installation guidance, and purchasing advice. We aim to respond within 24 hours to help resolve issues and ensure a smooth experience.
- **New Battery Replacement:** In the event of a defective battery that cannot be resolved, a new battery replacement service is provided.

11. PRODUCT MEDIA

Product Images



Two GOLDENMATE 12V 20Ah LiFePO4 batteries, black with yellow accents, showing the CRIUS 20 model and IP67 rating.



GOLDENMATE 12V 20Ah LiFePO4 battery on rocks with text 'High Capacity, Reliable Power', '256Wh Battery Capacity', and 'IP67 Waterproof'.



GOLDENMATE 12V 20Ah LiFePO4 battery partially submerged in water with text 'Built to Withstand the Elements' and 'Waterproof IP67'.



GOLDENMATE 12V 20Ah LiFePO4 battery in a car trunk with camping gear, text 'Lightweight Easy to Carry' and '5.95 LBS'.



Abstract image showing a battery cell with text '5000+ Cycles' and 'Long lasting Power for Years'.



Diagram of a GOLDENMATE LiFePO4 battery with internal BMS and icons for various protections: Overcharge, Overdischarge, Overcurrent, Overvoltage, Overheating, Short Circuit.



Collage of various applications for the GOLDENMATE LiFePO4 battery: home use, office, radio equipment, and camping.



GOLDENMATE 12V 20Ah LiFePO4 battery next to a solar panel in a grassy field, with text 'Solar Compatible for Clean Energy'.



Diagrams showing parallel and series connections for multiple GOLDENMATE LiFePO4 batteries, with text 'Scalable for Greater Power'.

Official Product Videos

GOLDENMATE CRIUS Waterproof LiFePO4 Battery Series: This video provides an overview of the GOLDENMATE CRIUS series, highlighting its waterproof features and various applications. It showcases the battery's design and suitability for diverse environments.

DC HOUSE Factory Tour: This video offers a tour of the DC HOUSE factory, demonstrating the production lines, R&D testing center, and customer service operations. It provides insight into the manufacturing process and quality control measures for their batteries.

ExpertPower - LiFePO4 Lithium Battery Overview: This video explains the general advantages of LiFePO4 batteries over traditional lead-acid batteries, covering aspects like energy density, eco-friendliness, power, service life, and lightweight design. It also illustrates various applications for LiFePO4 batteries.