

[Manuals.plus](#) /

> [CHINS](#) /

> CHINS 12V 280AH LiFePO4 Lithium Battery User Manual

## CHINS 12V 280AH

# CHINS 12V 280AH LiFePO4 Lithium Battery User Manual

Model: 12V 280AH

## INTRODUCTION

This manual provides essential information for the safe and efficient use of your CHINS 12V 280AH LiFePO4 Lithium Battery. Please read it thoroughly before installation and operation. This battery is designed for deep cycle applications, offering a long lifespan and reliable power for various uses including RVs, solar energy systems, marine applications, and off-grid setups.



Image: The CHINS 12V 280AH LiFePO4 Lithium Battery, showcasing its robust design suitable for various applications.

# SETUP AND INSTALLATION

---

## 1. Initial Inspection

Upon receiving your battery, inspect it for any visible damage. Ensure all terminals are clean and secure. Verify the battery voltage with a multimeter before connecting.

## 2. Safety Precautions

- Always wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when handling batteries.
- Do not short-circuit the battery terminals.
- Ensure proper ventilation during installation and operation.
- Keep the battery away from heat sources, open flames, and flammable materials.
- Do not disassemble, puncture, or modify the battery.

## 3. Connection (Series and Parallel)

The CHINS 12V 280AH LiFePO4 battery supports both series and parallel connections for increased voltage or capacity. Observe the following guidelines:

- **Parallel Connection:** Up to four identical batteries can be connected in parallel to increase total capacity (e.g., four 12V 280AH batteries in parallel yield 12V 1120AH). Ensure all batteries have the exact same voltage and capacity and were purchased within a six-month window.
- **Series Connection:** Up to four identical batteries can be connected in series to increase total voltage (e.g., four 12V 280AH batteries in series yield 48V 280AH). Ensure all batteries have the exact same voltage and capacity and were purchased within a six-month window.
- When connecting in series and parallel simultaneously, adhere to the maximum limits for both configurations.
- Always connect positive to positive and negative to negative for parallel connections. For series connections, connect the positive of one battery to the negative of the next.
- Use appropriate gauge cables and ensure all connections are tight and secure.



Image: Diagram illustrating the dimensions and connection points of the CHINS 12V 280AH LiFePO4 battery, highlighting its suitability for various setups.

## 4. Charging

Use a LiFePO4 compatible charger. The battery includes an 18A charger. The built-in Battery Management System (BMS) protects against overcharge. The low-temperature cut-off function prevents charging below 32°F (0°C) to avoid irreversible damage.

# OPERATING INSTRUCTIONS

## 1. General Use

The CHINS LiFePO4 battery is designed for deep cycle applications. It can be discharged to a low state of charge without significant impact on its lifespan, unlike lead-acid batteries. The integrated BMS ensures safe operation by protecting against over-discharge, over-current, and short circuits.

## 2. Monitoring

While the battery includes a monitor, it is recommended to use an external battery monitor for precise tracking of state of charge, voltage, current, and temperature, especially in complex systems. This helps optimize performance and extend battery life.

## 3. Discharge Limits

The BMS will automatically disconnect the battery if the voltage drops below a safe threshold to prevent over-discharge. The peak current of the BMS can reach 600-800A for 3-5 seconds, suitable for various marine and high-power applications.

# MAINTENANCE

CHINS LiFePO4 batteries are largely maintenance-free due to their advanced chemistry and integrated BMS. However, periodic checks are recommended:

- **Terminal Inspection:** Periodically check battery terminals for corrosion and ensure they are clean and tight.
- **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% state of charge. Store in a cool, dry place, away from direct sunlight and extreme temperatures. The battery has a low self-discharge rate, retaining charge well when not in use.

## TROUBLESHOOTING

If you encounter issues with your CHINS LiFePO4 battery, consider the following:

- **Battery Not Charging:**
  - Check charger compatibility and ensure it is a LiFePO4 specific charger.
  - Verify all connections are secure.
  - Ensure ambient temperature is above 32°F (0°C) due to the low-temperature cut-off protection.
  - The BMS may have triggered an over-discharge protection. Try connecting to a charger to reset the BMS.
- **No Power Output:**
  - Check battery voltage with a multimeter. If it's very low, the BMS might have activated over-discharge protection.
  - Inspect cables and connections for looseness or damage.
  - The BMS may have triggered over-current or short-circuit protection. Disconnect the load, wait a few minutes, and reconnect.
- **Unusual Odor or Heat:** Immediately disconnect the battery from all loads and charging sources. Contact customer support.

For persistent issues, refer to the support section.

## SPECIFICATIONS

| Feature                        | Specification               |
|--------------------------------|-----------------------------|
| Brand                          | CHINS                       |
| Model                          | 12V 280AH                   |
| Voltage                        | 12.8 volts                  |
| Battery Capacity               | 280 amp_hours               |
| Battery Cell Composition       | Lithium-Phosphate (LiFePO4) |
| Item Weight                    | 58.6 pounds                 |
| Product Dimensions (D x W x H) | 20.47" x 9.45" x 8.58"      |

| Feature                 | Specification                 |
|-------------------------|-------------------------------|
| Resistance              | 13 milliohms                  |
| Terminal Type           | M8                            |
| BMS Peak Current        | 600-800A (3-5 seconds)        |
| Low-Temperature Cut-off | 32°F (0°C) for charging       |
| Cycle Life              | 5000+ cycles                  |
| Included Components     | Battery, 18A Charger, Monitor |

## WARRANTY INFORMATION

The CHINS 12V 280AH LiFePO4 Lithium Battery comes with a **1-year manufacturer's warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims. For specific terms and conditions, refer to the warranty card included with your product or contact CHINS customer support.

## CUSTOMER SUPPORT

If you have any questions, require technical assistance, or need to make a warranty claim, please contact CHINS customer service. You can typically find contact information on the product packaging, the CHINS official website, or through your point of purchase.

When contacting support, please have your product model (12V 280AH) and purchase date ready to expedite assistance.

© 2024 CHINS. All rights reserved.

### 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

---

Open the live page

<https://manuals.plus/asin/B0C47FJZFZ>

More documents and user manuals: <https://manuals.plus/>