VOLTANIC

USER MANUAL

100Ah - 300Ah 12.8V LiFePO4 Leisure Battery

Safety

Important: Please read this user manual thoroughly before storing, installing, or using your battery. This manual contains critical safety information and best practices to ensure optimal performance and safety.

While every precaution has been taken to design a safe and reliable product, no battery can be considered 100% risk-free. Always exercise caution when handling or operating equipment connected to high-capacity energy storage devices.

LiFePO4 batteries should only be installed and operated by a qualified and competent individual. Pay close attention to the recommended charge, discharge, and temperature limits outlined in this manual, as these may differ from the maximum limits set by the Battery Management System (BMS).

If you have any questions or concerns regarding safety or operation, please contact our support team at support@voltanic.com.

Important

- Do not expose the battery to water, fire, or extreme temperatures.
- Do not short circuit, crush, or disassemble the battery.
- Only use a charger specifically designed for LiFePO4 batteries.
- If storing long-term, keep the battery at around 50% charge and top it up every three months.
- Store in a clean, dry, and well-ventilated area.
- Do not connect with batteries of different brands, types, or capacities.

Installing

Your battery can be installed in any orientation except upside down. For best performance and longevity, install it in a stable, dry environment, away from extreme temperatures, moisture, and excessive vibration. Avoid areas prone to freezing conditions or rapid temperature changes, as these can impact efficiency and lifespan.

If you're setting up a full system, positioning the battery, inverter, and charge controller in the same general area is recommended. This makes installation easier, keeps wiring neat, and helps minimize cable lengths, reducing energy loss and improving overall performance.

In vehicles, the battery must be securely mounted to prevent movement during operation. It should also be easily accessible for disconnection in case of an emergency. If installing on the vehicle floor, adding insulation or an air gap can help prevent heat transfer from the metal subfloor.

Avoid tightening or loosening the connections immediately after high loads, as warm terminals need time to cool. Loose connections can lead to increased resistance and overheating under high current flow.

To prevent issues, only connect a maximum of two cables per terminal. If additional connections are needed, use busbars or a distribution system. Too many connections on a single bolt can cause excessive resistance, leading to overheating.

Before making any connections, double-check polarity to avoid potential damage. Short-circuiting the terminals can result in a dangerous surge of current, so extra care should be taken during installation.

Charging

Using the right charger and configuring it correctly will ensure your battery performs well and lasts as long as possible. While the built-in Battery Management System (BMS) will automatically stop charging if voltage gets too high, this is only a backup safeguard—it's best to set up charging correctly from the start.

The ideal charging process involves supplying a steady current until the battery reaches 14.4V, at which point charging should stop.

- Use a LiFePO4-Compatible Charger – Ensure your charger is set to a LiFePO4 profile to prevent overcharging or incorrect voltage settings.
- Set the Correct Voltage – The charging voltage should not exceed 14.4V.
- Monitor During Charging – While charging, check that all connections are secure and avoid leaving the battery completely unattended.

Discharging

Your battery is built to handle high discharge currents, making it perfect for running powerful appliances, whether at 12V or 24V DC or through an inverter for household power. To get the best performance, make sure your cables are thick enough to handle the load safely—undersized cables can overheat and reduce efficiency.

A correctly rated fuse is essential to protect both the battery and your system from damage. The right fuse size depends on your setup, so check your inverter's guidelines and system requirements. Also, ensure your inverter is within the recommended size for your battery model to maintain reliability and extend its lifespan.

Storing

If you're not installing or using your battery right away, follow these steps to keep it in top condition:

- Charge Before Storage – Bring the battery to 13.0V–13.25V (40–80% charge) before storing.
- Disconnect from All Loads & Chargers – Isolate the battery completely to prevent unnecessary discharge.
- If Keeping It On – If you must keep the battery powered, set your charger's storage mode to 13.2V.
- No Need for Trickle Charging – LiFePO4 batteries have an extremely low self-discharge rate and don't require continuous charging.
- Monitor Voltage – Check the battery occasionally and recharge if it drops below 12.8V.

Terminal connections

Your Voltanic battery is equipped with M8 terminals. Each battery comes with the correct bolts for these terminals—please avoid replacing them with longer bolts, as this could affect the connection quality.

For setups requiring multiple connections at the same voltage, we highly recommend using busbars. This ensures a clean and efficient connection while avoiding the risks of overloading a single terminal. Simply connect one cable to each stud on the busbar for optimal performance.

Warranty

Your battery is covered by a 5-year warranty from the date of shipment.

If a defect is found to be due to a manufacturing fault—such as an issue with the battery cells or Battery Management System (BMS)—we will repair or replace the battery at no cost. However, damage caused by misuse, accidents, or normal wear and tear is not covered.

If you suspect an issue with your battery, please contact us as soon as possible. We can guide you through a few simple checks to diagnose the problem, and in many cases, we can help resolve it remotely. If the issue cannot be fixed this way, we will arrange for the battery to be returned for testing. If the warranty claim is approved, we will cover all associated shipping costs.

In cases where the battery requires repair but is not covered under warranty, we're still happy to assist. The cost of the repair will depend on the extent of the work required, and we will agree on any charges before proceeding. If a manufacturing defect is confirmed, we will either repair the battery—typically by replacing a component like a cell or the BMS—or replace it with an equivalent or upgraded model.

If the battery is found to be working correctly or the issue is due to misuse, we can either return the battery or offer to recycle it. Any shipping costs for rejected warranty claims will be the responsibility of the customer.

CONTACT US

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