

Battery Safety Information



Battery Technology

Lithium Iron Phosphate (aka LFP or LiFePO_4) batteries are widely considered to be extremely safe and dependable. Roamer only use brand new, factory original grade A cells purchased directly from top tier manufacturers. We also record all serial numbers for full traceability. Roamer have taken every precaution to ensure that our batteries are as safe as possible to give you peace of mind while using our products to power your adventures.

The Roamer Battery Management System continuously monitors current draw, voltage, and temperature within the battery to catch the early warning signs of a problem. The active balancer fitted in your battery ensures that the cells experience equal load, meaning no one cell is stressed more than another, minimising the risk of a wear-and-tear related problem.

Several passive protection measures are also in place such as fire-retardant materials in the case and internal structure, and pressure relief valves on the cells to carefully manage vapour release events.

No battery is 100% safe however, and caution should always be taken when handling or operating equipment containing, or connected to, high-capacity energy storage devices.

General Safety Points

1. Always read the instruction manual before using the battery or equipment and retain the original product literature for future reference.
2. Do not dismantle, open, crush, incinerate, electrocute, or otherwise alter the battery.
3. Do not use a battery which is deformed, discoloured, leaking or otherwise abnormal.
4. Do not subject the battery to mechanical shock including being dropped, or having other objects dropped on or collide with it. If mounted in a vehicle, the battery must be restrained securely and insulated from excessive vibration.
5. Do not expose the battery to excessive cold, heat sources, or fire. Avoid storing the battery in direct sunlight. An air gap or insulating material should be positioned between the battery if it rests directly against cold surfaces.
6. Keep the battery clean, dry, and away from sources of liquid.
7. Do not short-circuit the battery. Do not store the battery without protection over the terminals, or in an unprotected or unlabelled box. Do not place in contact with conductive materials or liquids.
8. Mistreated batteries can present a risk of electrical, thermal, or chemical burns.
9. Keep the battery out of the reach of children and away from animals.
10. In the event of a cell or battery leak, do not allow any liquid or debris to come in contact with the skin or eyes, avoid ingesting any liquid or debris, and avoid inhaling vapours.
11. If contact has been made, flush the affected area continuously with water and seek medical advice. If vapours have been inhaled or liquid or debris ingested, remove the casualty to an area with fresh air and seek medical advice.
12. Large batteries can be extremely heavy and appropriate care should be taken when handling them.

Installation

13. The battery should not be handled or installed by children. Small component parts present a choking hazard.
14. The battery should be installed by competent persons. Insulated electrical tools must be used.
15. Do not remove the battery from its original packaging until required for use.
16. Do not mix batteries of different manufacturers, capacities, voltages, or types.
17. A smoke and/or heat alarm should be installed in the same compartment as the battery.
18. Strictly observe the positive (plus, +) and negative (minus, -) marks on the battery and equipment, and ensure connections are made with the correct polarity.
19. The battery terminals should be connected using the provided connection hardware to the recommended torque rating.
20. Only a single cable connection should be attached to the battery terminals. Busbars should be used if multiple cables of the same potential are required.
21. Voltages of greater than 85V across the battery terminals will cause serious malfunction even if the battery is in charge protection mode. If the system in which the battery is installed includes solar panels which operate above this voltage, additional protection should be installed to mitigate the risk of direct connection.

Continued on the reverse, please turn over.

Usage

22. Use the battery only in the application for which it was intended.
23. Inverters greater than 1500W must be pre-charged before connecting to the battery. Do not use an inverter with a continuous power rating larger than 3000W (for 12V batteries) or 5000W (for 24V batteries). For instructions on pre-charging, please see the user manual for the battery, or see our website at www.roamer.com.
24. Do not use a battery charger other than that specifically recommended for use by Roamer. If in doubt, refer to the product user manual or contact Roamer Customer Support.
25. The battery must not be charged at higher than the recommended current or voltage. Refer to the user manual for recommendations for temperature-dependant charge currents.
26. If multiple batteries are charged in parallel, the charge current must remain limited to the same as for a single battery.
27. If multiple batteries are used in series, the batteries must be charged individually to within 0.05V before connecting.
28. The battery should be monitored continuously during charging. Do not leave a battery unattended while charging.
29. The battery should only be charged or discharged within the temperature range shown on the datasheet.
30. If you ever notice excessive heat, smoke or fumes from the battery or terminals, you should stop using the battery immediately. If safe to do so, remove the battery and place it outdoors on a non-combustible surface and ventilate the area where the battery was installed. If removal is not possible or there is a fire, immediately vacate the area and call the emergency services, informing them about the presence of a lithium battery and await instruction. If contact has been made, flush the affected area continuously with water and seek medical advice. If vapours have been inhaled or liquid or debris ingested, remove the casualty to an area with fresh air and seek medical advice.

Storage

31. The battery should ideally be stored in a cool, dry place between 10 and 40 degrees. It is ok to store at colder temperatures if not in use, but you should never allow the battery ambient temperature to exceed 40 degrees as this can cause permanent damage to the battery cells.
32. Do not leave a battery on prolonged charge when not in use. It is not necessary to float charge the battery (as you would with a lead acid battery) as this can degrade lithium battery cells. Roamer batteries should be stored between 13.0V and 13.25V for a 12V battery, 26V and 26.5V for a 24V battery, or 52V and 53V for a 48V battery.
33. After extended periods of storage, it is necessary to charge and discharge the battery several times to obtain maximum performance. The battery should be topped up every 6 months when not used for extended periods of time.

Care

34. If the battery terminals become dirty, carefully wipe them with a clean, dry cloth, or use specifically designed non-conductive electrical contact cleaner.

Disposal

35. The battery must not be disposed of with household waste and should be disposed of according to local regulations. For detailed information on how to dispose of or recycle your battery, contact Roamer Customer Support or your local waste management centre.

If you have any concerns or questions regarding the safe installation, operation, or storage of Roamer products please get in touch with us at support@roamer.com

Roamer reserves the right to change the contents of this document without prior notice. Roamer, the Roamer Logo, and any other marks are trademarks of Roamer Batteries Ltd. or its subsidiaries. Other names and brands may be claimed as the property of others. ©2023 Roamer Batteries Ltd.

