

Installation Guide for Powerhouse LiFePO4 batteries.



IMPORTANT NOTICE:

As of November 2023 Australian Law states batteries installed in RVs, Caravans etc., CANNOT be installed in a habitable area unless placed in a sealed enclosure. The following outlines the specific requirements for installation.

Overview

This guide is designed to provide information on installation of Powerhouse LiFePO4 batteries in accordance with AS/NZS 3001.2:2022. This guide is suitable for installation of batteries in recreational vehicles and covers the following battery series:

- Powerhouse Standard LiFePo4
- Powerhouse Slimline LiFePo4
- Powerhouse Bluetooth LiFePo4

Before commencing we advise that you read AS/NZS 3001.2:2022 to make sure that your installation complies to the requirements of this standard. The standard is available from [Standards Australia](https://standards.australia.gov.au/standards/AS/NZS/3001.2/2022).

All Powerhouse LiFePO4 batteries are fitted with an integral Battery Management System (BMS) that protects the following conditions as set out in clause 5.4.12.3.3:

- Over and under voltage (at cell level).
- Over and under temperature.
- Over current.

The lithium cells (batteries) inside the Powerhouse LiFePO4 batteries comply with AS IEC 62619 as required by clause 5.4.12.3.1 of the standard.

Battery State Of Charge (SOC)

The Powerhouse Bluetooth range of batteries are fitted with a Bluetooth module which allows monitoring of the state of charge (SOC) percentage as required by clause 5.4.12.3.4 along with current, temperature and voltage of the cells. If using multiple batteries in parallel we recommend a standalone battery monitor to be connected to the battery circuit such as the Q0594/Q0596 coulometers.



Q 0596 Powerhouse Coulometer & Current Shunt

The Powerhouse Standard and Slimline ranges of batteries require external SOC monitoring. Using the Q0594/Q0596 coulometers, essential battery parameters can be monitored including capacity as set out in clause 5.4.12.3.4.

Installing your batteries.

To protect the battery from impact and moisture ingress the battery should be installed in a designated battery enclosure/compartment.

If the battery compartment is within a vehicle (car or caravan etc), the battery must be installed to share an outer wall or floor of the vehicle. The compartment must be sealed and made from material which prevents gases/vapour from entering the habitable space of the vehicle, directly or indirectly.

To meet clause 5.4.11.3.2 access to the battery compartment must be easy. It should be accessible by a door/hatch directly from the outside of the vehicle. As this cannot always be achieved in every installation type, an internal access panel is acceptable as long as it is securely fastened and fully sealed to prevent gas/vapour from entering the habitable space within the vehicle. If you choose this method of installation we recommend attaching a label to the hatch that warns of the dangers and legalities of leaving it unsecured.

Ventilation requirements.

Venting of the compartment is a requirement of the standard and must consist of a 20mm minimum hole size to the exterior of the vehicle either through the wall or floor of the structure. This ventilation allows the compartment to equalise pressure and temperature between the compartment and the outside environment. It also allows for venting of gas/vapour in the unlikely event of a battery/cell failure. The vent design should not compromise the battery compartment or force gas/vapour into the habitable space of the vehicle.

Mounting requirements.

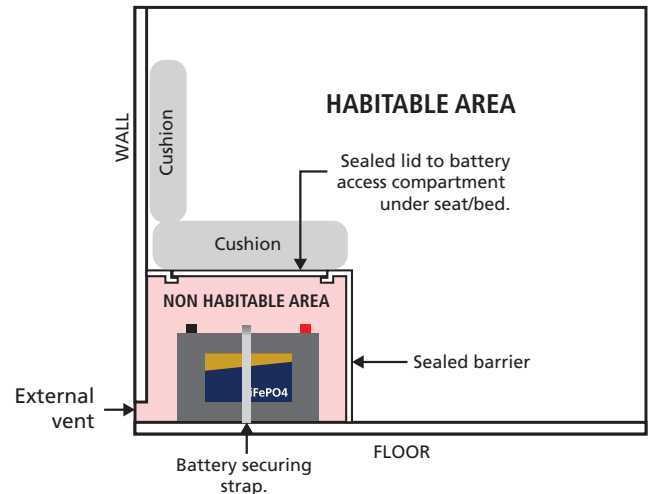
The Powerhouse Slimline batteries are provided with integral mounting points to comply with Clause 5.4.5.

For other Powerhouse LiFePO4 batteries, we recommend the use of a secure battery tray or straps to restrict the batteries movement as per the requirements of the standard.

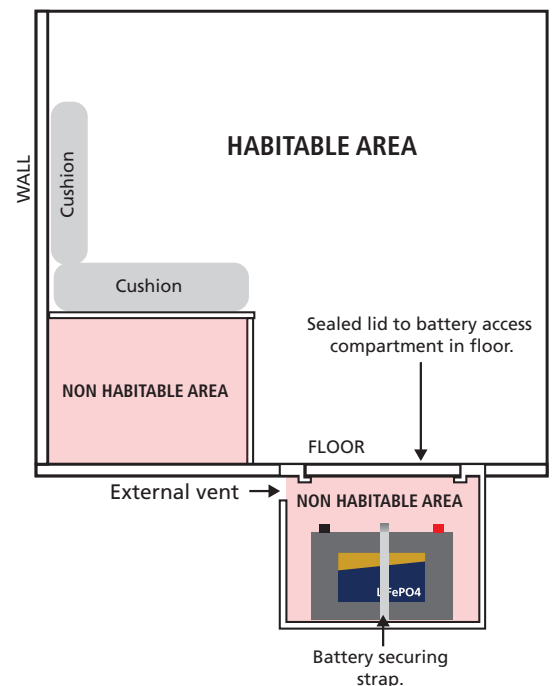
Spill trays are not required as part of the standard when using LiFePO4 batteries.

Example installations:

Caravan Seat / Bed Installation (Sealed Internal)



Under Floor Installation (External)



Steps before use:

Before commencing use of your vehicle power system you should ensure the following steps have been checked off.

1. All connections are secure and there is no interference from non-conductive materials.
2. Check that all batteries in the system are secure as per clause 5.4.5 (ie: no movement in any direction >25mm).
3. System has been charged to 100% capacity to allow all battery monitors to sync to 100% SOC.
4. Perform a discharge test with all intended loads, including any power inverters at their intended output. Check for hot connections which may indicate a poor quality connection or cable over its specified current carrying capacity.
5. Make any rectifications required.
6. Recharge the system to 100% SOC again.

Disclaimer

Information provided as a guide only. Please seek professional advice when installing battery circuits in your vehicle or trailer. Battery wiring can carry very high currents and if not fused correctly, could cause circuit failures and fires.

Warranty Statement

Altronic Distributors warrants Powerhouse LiFePO4 batteries for 5 years from date of purchase from Altronic or its resellers to the consumer. If this item is part of an installation or another product, please contact the installer or supplier for your warranty. During the warranty period, we undertake to repair or replace your product at no charge if found to be defective due to a manufacturing fault. The warranty excludes damage by misuse or incorrect installation (i.e. failure to install and operate device according to specifications in the supplied instruction manual), neglect, shipping accident, or no fault found, nor by use in a way or manner not intended by the supplier.

For repair or service please contact your PLACE OF PURCHASE.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. NOT FIELD SERVICEABLE.

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