Storage, winter and temperature

Store your battery over the winter or between seasons, and keep it within its temperature limits.

LiFePO4 batteries keep their charge well: they lose about 3–4 % a month on their own. A battery left connected to a system loses more, because the system and the BMS keep drawing a little current. What follows is general guidance for LiFePO4 batteries; your battery's data sheet has its own limits.

Before storing

1. **Charge to about half**
   Store the battery partly charged, around 50 %, rather than full or empty.

2. **Disconnect it**
   Disconnect every load and charger, or open the battery switch, so nothing drains it.

3. **Store it in a dry, cool place**
   Keep it out of direct sun, away from heat sources, and where it won't be charged below freezing.

4. **Check it every few months**
   Connect with Battery Monitor and look at the state of charge. Top it up to about half if it has dropped well below that.

> **Don't let it run empty**
> A battery left fully discharged can be damaged for good, and deep discharge isn't covered by the warranty.

Temperature limits

The BMS watches the battery's temperature and stops charging or discharging outside its limits. Battery Monitor shows the hottest sensor on the dashboard and every sensor under **Cell Temperatures**.

	Typical LiFePO4 range
Charging	0 °C to 45 °C
Discharging	−20 °C to 60 °C
Storage	−10 °C to 45 °C

Your battery's exact ranges are on its data sheet, and the passport shows its operating temperature.

In winter

- A battery that is too cold to charge shows **Charge Temp Too Low** and doesn't charge until it warms up. It can still supply power.
- Install the battery inside the boat, vehicle or building where possible, not in an unheated outside locker.
- Leaving it partly charged and disconnected is better than leaving it connected and slowly draining.

In summer

- Keep the battery out of direct sun and away from engines and heaters.
- Heat speeds up ageing. Charging or discharging hard in a hot compartment can trip **Charge Temp Too High** or **Discharge Temp Too High**: give it air and let it cool.