

Lithium Storage Recommendations

When storing lithium batteries and cells, please follow these recommended guidelines:

1. Do not directly connect the terminals with metal objects, as this will cause the batteries or cells to short circuit
2. Do not store loose batteries or cells together as the batteries' terminals may touch and cause a short circuit
3. Disconnect batteries/cells when not in use
4. Store batteries/cells in a non-conductive and fireproof container away from potential industrial debris
5. Do not alter, puncture, impact, submerge in water or other liquid, or otherwise cause damage to the batteries or cells
6. Avoid storing batteries and cells long term in extreme temperatures or direct sunlight. The battery should be stored at a $-10^{\circ}\text{C} \sim +45^{\circ}\text{C}$ range environmental condition. If the battery must be stored for a long time (over 3 months), the environmental condition should be:
 - a. Temperature: $23 \pm 5^{\circ}\text{C}$
 - b. Humidity: $65 \pm 20\% \text{RH}$
 - c. The storage voltage should be 3.3V~3.4V per cell. (3.4V for 0.5C charging; 3.3V for resting)

For starter batteries (HyperSport Pro line), it is fine for the battery to sit fully charged inside the application between uses (<2 months). It is not advised for the battery to be left on a float charge between uses or while in storage. If the battery is being stored long term (>2months), it should be kept at the above designated storage voltage, and the voltage should be checked periodically.

Batteries with BMS must also be periodically checked for storage voltage as the BMS draws a small amount of current. This is especially important in low-capacity batteries as the small current makes a bigger difference in small (<20AH) capacities.

Additionally, it is important to never store a lithium battery at 100% state-of-charge as this could degrade the capacity of the battery over time.



Lithium Battery Maintenance

We recommend that all lithium batteries and cells not-in-use go through one full maintenance cycle (charge to 100% SOC, discharge to 100% DOD, charge to 50% SOC) once every 6-12 months to maintain the battery/cell's capacity.

Please check batteries and cells in storage for voltage once every 6 months. If the cell or battery's voltage falls below these recommendations, please charge the battery/cell to bring the voltage to the recommended voltage range.

Voltage Range	Lithium Iron Phosphate Product Type
3.3-3.4 volts	Individual Cell
13.2-13.6 volts	12-volt battery pack
26.4-27.2 volts	24-volt battery pack

When checking batteries and cells semi-annually for voltage, please inspect battery/cell for terminal corrosion and case integrity. Do not use any battery or cell that appears damaged.