



Lithium Iron Phosphate Batteries FAQ's

1-What are Lithium Iron Phosphate Batteries LiFePO4

Lithium Iron Phosphate batteries use a new type of cathode material that provides several advantages over traditional Li-ion batteries. LiFePO4 batteries provide much higher specific capacity, superior thermal and chemical stability, enhanced safety, improved cost performance, enhanced charge and discharge rates, compact size, light weight, and enhanced cycle life.

2-What are the advantages of Lithium Iron batteries compared to Lithium-Ion?

- Higher Cycle Life
- Better High-Temp Performance
- Faster Charging
- Lower Self Discharge

3-What LiFePO4 batteries does Power-Sonic offer?

- PSL-12450 12V 45AH with BMS
- PSL-12200 12V 23AH with PCM
- PSL-24200 24V 22AH with PCM

4-What is a BMS and what does it do?

Battery Management System (BMS) is any electronic system that manages a rechargeable battery (cell or battery pack), and **provides real-time communication** between battery and host system.

A BMS may monitor the state of the battery as represented by various items, such as:

- Voltage: total voltage, voltages of individual cells, minimum and maximum cell voltage or voltage of periodic taps
- Temperature: average temperature, coolant intake temperature, coolant output temperature, or temperatures of individual cells
- State of charge (SOC) or depth of discharge (DOD): to indicate the charge level of the battery
- State of health (SOH), a variously-defined measurement of the overall condition of the battery
- Current: current in or out of the battery



5-What is a PCM and what does it do?

Protection Circuit Modules (PCM) are for the express purpose of regulating output of current from the battery to electrical loads.

Our PCMs offer the following features:

- Balancing function for cells
- Over-current protection
- Over-voltage protection
- Over-discharge protection (also known as under-voltage)
- Temperature protection
- Short-circuit protection

6-Can I use a standard SLA charging system with Power-Sonic LiFePO4 batteries?

Our PSL-12450 usually is matched to a Power Module enabling real-time communication and management of the battery itself. It may also be charged with a standard charging system (minimum 14.6V-14.8V) if used in “dumb”, or unmanaged mode.

Our other units are backwards compatible with most SLA charging systems that provide 14.6V-14.8V for the PSL-12200 and 28.8V-29.6V for the PSL-24200.