



## 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. LiFePO<sub>4</sub> 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.