



## Lithium Iron Phosphate Battery UPS Systems for Military Applications

AJ's Power Source has been at the forefront of utilizing Lithium Iron Phosphate (LiFePO<sub>4</sub>) batteries in Backup Power Systems for their military customers. Mike Henderson of AJ's Power Source explains why they have been using this chemistry for over 10 years alongside their own added technology that allows them to provide the smallest/lightest Tactical UPS available in the Powergrid™ UPS and why you should consider them as a source for your next military power requirement.

### *Powergrid™* **STACKING** System



A UPS (Uninterruptible Power Supply) provides power to equipment, typically from batteries, when the power source is not available. In critical military applications, an Online UPS system not only provides this backup power but also filters the input to provide continuous regulated and conditioned power that is critical for effective and efficient operation of the end equipment.

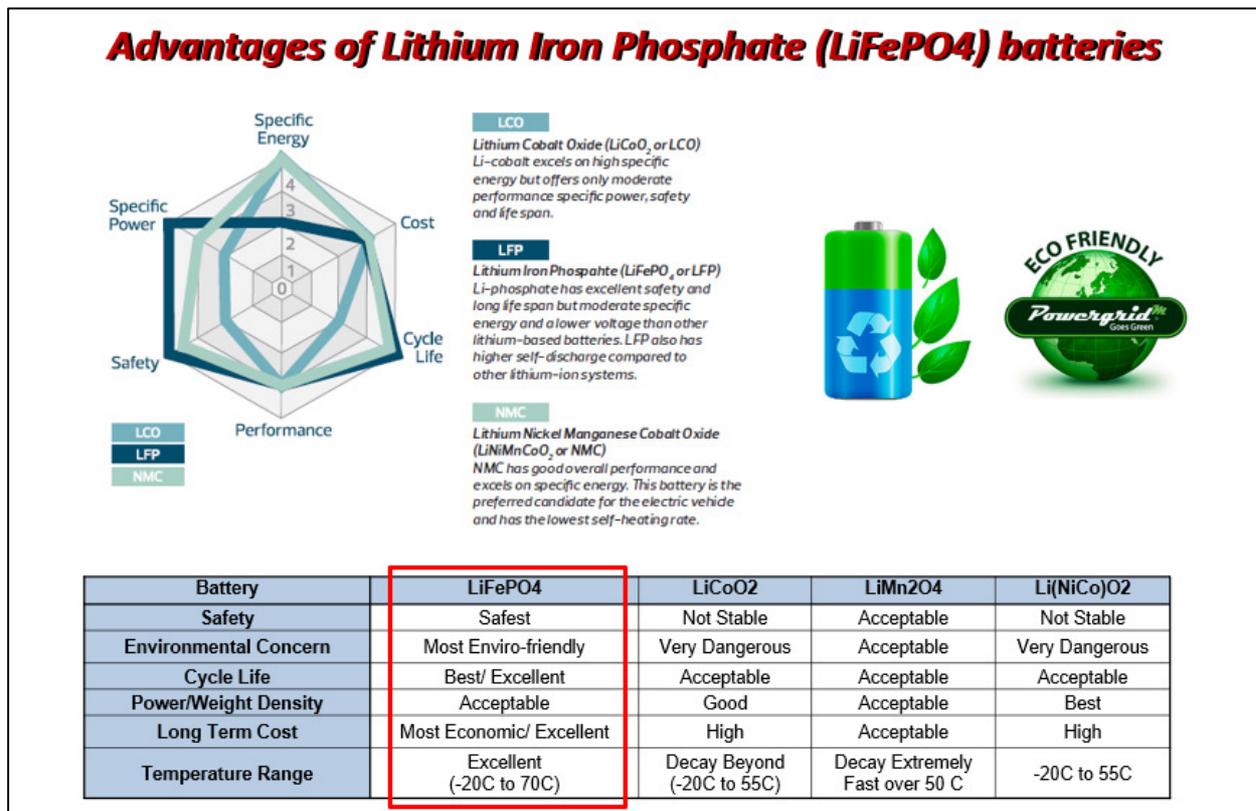
## Why use LifePO4?

A UPS system can utilize many different types of battery chemistries. Lithium Iron Phosphate (LiFePO4) and other lithium-ion batteries are in the same category as they all use lithium ions as the main charge carrier within the cell. A key difference in lithium-ion chemistries is in the cathode material. LiFePO4 batteries are ideal for use in UPS systems as they provide an outstanding combination of attributes including:

- ✓ High energy with long runtime and consistent discharge voltage
- ✓ Stable chemistry - safe and non-toxic
- ✓ Long life (10+ years) with no maintenance
- ✓ Lightweight for mobile and airborne applications
- ✓ Wide operating temperature range
- ✓ Low long-term cost

Recently, we have even seen that Tesla is changing over to using LiFePO4 batteries! In October 2020 Tesla started to produce their Model 3 out of their Gigafactory Shanghai facility with LiFePO4 batteries.

The advantages of LiFePO4 batteries over other lithium chemistries is seen in the following chart.



## AJ's Power Source is an industry leader

AJ's Power Source was the first company to utilize LiFePO4 batteries in a Military UPS system with our PowergridM™ UPS. The PowergridM™ design utilizes the latest advancements in power management technologies to dramatically enhance operational flexibility and performance by using advanced computer-controlled inverters, auto switching AC/DC input power controls, advanced Lithium Iron Phosphate battery technology, Ethernet-based SNMP status monitoring, and global AC/DC power input capabilities. PowergridM™ is the first power management system based on a common set of modular power components that can be configured and re-configured to meet a wide variety of dynamic mobile and deployed power support requirements.

PowergridM™ is designed as a High Reliability power management solution capable of providing resilient to fully redundant non-stop power capabilities for critical systems. Our "plug & play" UPS Backplane Module is the first of its kind and provides outstanding flexibility and functionality to the end user in a truly Integrated Power Management System that can provide up to 12kW of reliable, on-demand power.



PowergridM™ has been qualified to all applicable Military Standards for environmental, EMI, and power quality requirements and is the only LiFePO4 based UPS to have received US Navy Safety Certification In accordance with the requirements of Navy Technical Manual S9310-AQ-SAF-010.

### Local Support

Luso Electronics are AJ's Power Source partner in the UK, their power specialists are trained on the range of military power products which as well as a wide range of UPS systems, also include Inverters, rugged power supplies, dc/dc converters, power conditioners, PDU's and more.

Contact Luso for more information.

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