

# LITHIUM IRON PHOSPHATE

LEAD ACID REPLACEMENT  
FROM ULTRALIFE



**ULTRALiFE**®

Ultralife Corporation serves its markets with products and services ranging from power solutions to communications and electronics systems. Through its engineering and collaborative approach to problem solving, Ultralife serves government, defense and commercial customers across the globe.

Headquartered in Newark, New York, the Company's business segments include: Battery & Energy Products and Communications Systems. Ultralife has operations in North America, Europe and Asia.

**ULTRALIFE®**



# LEAD ACID REPLACEMENT LIGHT, COST EFFECTIVE, LESS SPACE

## THE NEXT-GENERATION IS HERE TODAY...

ULTRALIFE Lithium Iron Phosphate (LiFePO<sub>4</sub>) batteries are the modern replacement for traditional lead acid batteries in a myriad of mission critical applications. With lower weight, higher energy, longer life, electronic protection and safety certification, ULTRALIFE LiFePO<sub>4</sub> batteries outperform Lead Acid on almost every measure.

If you are looking to replace your old lead acid battery system or need a power source for your new device, ULTRALIFE LiFePO<sub>4</sub> batteries couple next-generation performance with off the shelf availability.



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ULTRALIFE LiFePO<sub>4</sub> batteries  
outperform Lead Acid on  
almost every measure ”



GOVERNMENT  
& DEFENSE



MEDICAL



SAFETY &  
SECURITY



ENERGY



INDUSTRIAL

# THE CLEAR CHOICE

ULTRALIFE Lithium Iron Phosphate chemistry is the clear choice for batteries which must operate for many years without the need for servicing or replacement. The similar charging voltage means that ULTRALIFE LiFePO4 batteries can usually be transplanted into existing lead acid applications without modification.

When it comes to maintenance the ULTRALIFE LiFePO4 batteries out perform traditional Lead Acid batteries on nearly every measure; they never require topping with water, they don't require gas extraction facilities and their service life is usually 5 to 7 years, compared with around 2 years for Lead Acid batteries.

The ULTRALIFE LiFePO4 batteries are an affordable solution to many issues, especially in remote locations, while providing a much lower "total cost of ownership" solution over traditional Sealed Lead Acid (SLA) - when you also factor in the logistics and labor to replace SLA every 1-2 years, Lithium Iron Phosphate is an all-round winner.

The inclusion of fuel gauging on products such as the URB12400-U1-SMB now means the battery can accurately communicate its state of charge to your device, enhancing the user experience.

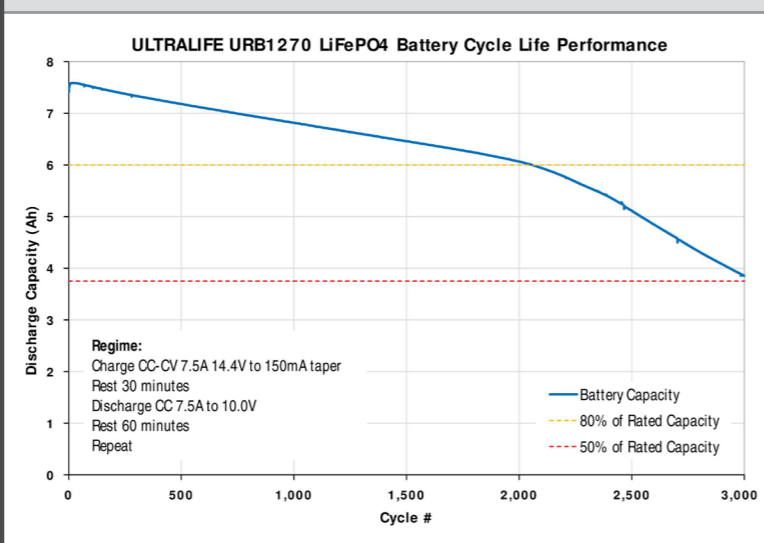
6.4V

12.8V

25.6V



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LiFePO4 batteries can last  
for up to 2,000 cycles”



## SUCCESSFUL APPLICATIONS

- Oil/Gas Automation and Measurement
- Oil/Gas Production
- Automated Gate Operators
- Automated Range Target Systems
- Commercial Aerator Systems
- Commercial Livestock Feeder Systems
- Industrial Vehicle/Equipment Starter Applications
- Recreational Vehicle Back-up Power Supply
- Marine Starter and Auxiliary Power Supply System
- Solar Regenerated Back-up Power Supply
- Data Centre Back-up Power Supply
- Scooters / Wheelchairs
- Robotics
- Medical Carts
- UPS Replacement
- Solar Battery
- Fire & Emergency/Heavy Goods/Speciality Patrol Vehicles
- Floor Cleaning Machines
- Automated Ticket Machines

**Contact Ultralife for your next project.**  
**Our engineering team is ready to assist.**

## BENEFITS AT A GLANCE

### ULTRALIFE LiFePO4 BATTERIES...

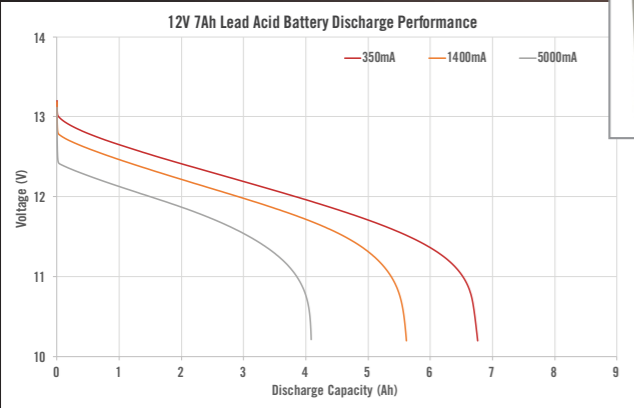
- Three times lighter than Sealed Lead Acid. Same capacity; 33lbs compared to 100lbs.
- Built-in protection to ensure the battery operates correctly and safely for a long life.
- Fully cycle from 100% charged to 100% discharged. Up to 2,000 cycles compared to 300 to 500 for Sealed Lead Acid.
- Building Blocks - connect in series or parallel to customize voltage or capacity.
- Charge with any 2 stage charger designed for use with Lead Acid batteries.
- Remain charged whilst in storage. Only need to be checked every 6 months.
- Mount in any direction.
- Require no physical maintenance.
- Fully certified for transportation and for commercial/ industrial applications.
- Active cell balancing controls to maximize capacity on every discharge cycle.
- Service life up to 7 years in commercial and industrial applications.



# ULTRALIFE LiFeP04 VS LEAD ACID

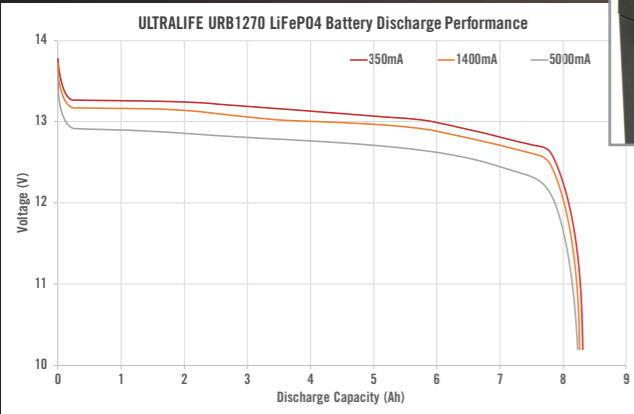
This practical example shows the outstanding performance of ULTRALIFE LiFeP04 batteries compared to traditional lead acid batteries.

## LEAD ACID



The chart shows the room temperature discharge performance of a 12V 7Ah lead acid battery from a leading manufacturer. The battery voltage drops steadily during discharge and fails to meet its rated capacity, even at a benign 350mA (0.05C) discharge rate. When the battery is subjected to higher loads of 1400mA (0.2C) and 5000mA (0.7C) the voltage drops is more severe and the delivered capacity is severely reduced. As delivered energy (Watt Hours) is calculated by multiplying Voltage (V) by Discharge Capacity (Ampere hours) the resulting ‘area under the curve’ is severely compromised at these higher discharge rates.

## ULTRALIFE LiFeP04



By comparison, the ULTRALIFE LiFeP04 URB1270 is the same size as its lead acid equivalent but half of the weight. This battery exhibits a consistently flat voltage profile throughout its discharge until energy is depleted. This superior performance characteristic is maintained, even at higher discharge currents which means more energy is delivered. In the 5000mA load test, the URB1270 delivers more than twice the energy of the lead acid battery which proves its capability to outperform lead-acid in power demanding applications.

In this head to head test, the ULTRALIFE URB1270 LiFeP04 battery demonstrates its superior performance characteristics, performance which is repeated across the entire range of ULTRALIFE LiFeP04 batteries.



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ULTRALIFE LiFeP04 batteries are three times lighter than lead acid batteries of the same energy

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# TECHNICAL SPECIFICATIONS

BATTERIES	PART NUMBER	NOMINAL VOLTAGE	RATED CAPACITY	RATED ENERGY	DIMENSIONS (L x W x H)	WEIGHT	TERMINALS/CONNECTORS	UN	CB	UL
	URB6450	6.4V	4.5Ah	28.8Wh	70 x 48 x 100 (mm)	360g	F1 Faston Tab	●	●	
	URB1270	12.8V	7.5Ah	96.0Wh	152 x 65 x 92 (mm)	1.11kg		●	●	●
	URB12200		20Ah	256.0Wh	181 x 76 x 165 (mm)	2.87kg	M5 Screw Terminals	●	●	●
	URB12350		32Ah	409.6Wh	195 x 127 x 165 (mm)	4.61kg	M6 Screw Terminals	●	●	●
	URB12550		55.8Ah	714.2Wh	256 x 132 x 200 (mm)	7.87kg	M8 Screw Terminals	●	●	
	URB12550-22NF		52.7Ah	675.0Wh	228 x 138 x 208 (mm)	7.53kg	M6 Screw Terminals	●	●	
	URB121000		100Ah	1280.0Wh	340 x 170 x 210 (mm)	13.91kg	M8 Screw Terminals	●	●	
	URB12450-U1-SMB	25.6V	45.6Ah	583.7Wh	208.5 x 136.4 x 182.1 (mm)	5.46kg	1/4-20 Screw Terminals	●	●	
	URB24200-U1-SMB (Coming Soon)		22.8Ah					●	●	●
	URB-X5	12.8V	21.6Ah	276.5Wh	120.5 x 75.5 x 317.0 (mm)	3.67kg	Sub-flush gold-plated contacts	●	●	●
	URB0023	25.6V	54.0Ah	1382.4Wh	445 x 438 x 103 (mm)	15.9kg	5/16 – 24 Screw Terminals	●		
	URB0016-SMB (Coming Soon)							●		

CHARGERS	PART NUMBER	INPUT VOLTAGE TYPE	NUMBER OF BATTERIES	WEIGHT	UL	CE	FCC	NSN	ADDITIONAL INFORMATION
	UCH0058 UCH0059 UCH0060	AC DC	1	3.5kg	●	●			14.4V, 60A output 28.8V, 35A output 57.6V, 17A output
	UCH0062 UCH0063	AC Line Adapter	1	460g	●	●	●		Connectors: UCH0062: LD-SAE-74275 UCH0063: Alligator clips

- Specification details are correct at the time of printing.
- For the latest data please refer to published specifications which are available on our website at [www.ultralifecorp.com](http://www.ultralifecorp.com)
- Operator & regional variations may apply to the transport of Lithium Ion batteries. Check with your operator.



#### **ULTRALIFE BATTERY & ENERGY PRODUCTS**

2000 Technology Parkway  
Newark, New York, 14513  
United States

**TEL** 800-332-5000 (USA & Canada)  
**TEL** +1-315-332-7100  
**EMAIL** [sales@ultralifecorp.com](mailto:sales@ultralifecorp.com)  
**WEB** [www.ultralifecorp.com](http://www.ultralifecorp.com)