

SAFETY AND SECURITY

BATTERY AND ENERGY PRODUCTS
FROM ULTRALIFE



ULTRALiFE®

ULTRALIFE design and manufacture a wide range of non-rechargeable and rechargeable batteries for the safety and security markets, as well as power systems.

With decades of experience, ULTRALIFE offers the highest performing batteries available for critical and hard-to-service applications.

ULTRALIFE is unique in offering a variety of chemistries in a family of sizes that are ideal for numerous uses. ULTRALIFE can also configure multi-cell packs for unique applications.



BATTERY TYPES

LATEST PRODUCTS

NON-RECHARGEABLE

Over 25 years ago, ULTRALIFE began manufacturing primary batteries for home safety and security, utilizing Lithium Manganese Dioxide (LiMnO₂) chemistry to create the world's longest lasting lithium 9 Volt and Thin Cell[®] ranges.

LiMnO₂ chemistry also powers ULTRALIFE's range of CR123A batteries that are ideal for home automation and wireless security applications.

Alternatively, a range of ER Cylindrical (Lithium Thionyl Chloride - Li/SOCl₂) products are available. More information on the differences between LiMnO₂ and Li/SOCl₂ is outlined on page 4.

UB123A, CR123A, XR123A



ULTRALIFE has expanded its range of CR123A batteries, offering high capacity, energy density and reliability.

OVER 25 YEARS' EXPERIENCE

1992

Launched world's longest lasting 9V lithium battery, providing substantial differentiation as industry leader



Early 2000s

ULTRALIFE participated in the Land Warrior US Army Programme, developing a range of durable, rechargeable batteries, which can also be utilized outside the military environment.



2012

Developed Thin Cell[®] technology, offering excellent energy density for next-gen/wearable devices



2015

Introduced range of LiFePO₄ batteries, providing significant advantages over sealed lead acid alternatives



2018

Expanded CR123A battery portfolio, powering wireless security and home automation (high capacity)

RECHARGEABLE

Whilst non-rechargeable batteries are better suited to applications that require low self-discharge (such as smoke detectors), rechargeable batteries are ideal for safety and security equipment that requires higher power. This includes back-up power and uninterruptible power supply (UPS) systems.

ULTRALIFE developed the URB series of Lithium Iron Phosphate (LiFePO₄) batteries as a replacement for Sealed Lead Acid (SLA) alternatives in many such applications. More information on the difference between LiFePO₄ and SLA is available on page 4.

URB12400-U1-SMB



The Smart U1 Battery offers incredible performance in uninterruptible power supply (UPS) systems.

POWER SYSTEMS

ULTRALIFE Power Systems provide back-up power in-case of an emergency and can draw power from a range of sources, including renewable energy.

SuperWind Turbines have been approved for use with a selection of ULTRALIFE's URB series LiFePO₄ batteries, including the stackable power storage device (URB0023) that has been designed to fit almost any application.

URB0023 (STACKABLE)



Up to ten URB0023 batteries can be stacked to provide higher capacity.



APPLICATIONS INCLUDE:

- Smoke/Carbon Dioxide Detectors
- Intrusion Detection Systems
- “Smart” Security Cards
- Bank Theft Tracking Systems
- Emergency Lighting & Beacons
- RFID
- Wireless Motion Detectors
- Search & Rescue Devices
- Back-up Power

TECHNICAL SPECIFICATIONS

NON-RECHARGEABLE	NEW CR123A RANGE						
	XR123A	UB123A	CR123A	CR17335SE	9 VOLT	THIN CELL®	ER CYLINDRICAL
Chemistry	LiMnO2						Li/SOCl2
Voltage (nominal)	3.0V				9.0V	1.5V to 3.3V	3.6V
Capacity (nominal)	2.1Ah	1.7Ah	1.5Ah	1.8Ah	1.2Ah	0.17 - 1.6Ah	1.2 - 19.0Ah
Energy (nominal)	5.8Wh	5.0Wh	4.5Wh	5.4Wh	10.8Wh	0.5 - 4.8Wh	4.3 - 68.0Wh
Housing	Nickel plated steel				Stainless steel	Aluminium foil	Stainless steel container
Weight	16.0g	17.0g	16.0g	18.0g	37.0g	1.7 - 13.0g	10.0 - 107.0g
Operating temperature	-20°C to +72°C	-20°C to +60°C	-20°C to +70°C	-40°C to +60°C	-20°C to +60°C	-20°C to +60°C	-55°C to +70°C
Storage temperature	-40°C to +60°C	-20°C to +45°C	-20°C to +45°C	-40°C to +60°C	-40°C to +60°C	-40°C to +60°C	-55°C to +70°C
UL 1642 (User Replaceable) Recognition	Pending	Pending	✓	✓	✓	✓	✓
UN 38.3 Transport Certification	Pending	✓	✓	✓	✓	✓	✓

LiMnO2 vs. LiSOCl2

ULTRALIFE utilize two leading non-rechargeable chemistries – Lithium Manganese Dioxide (LiMnO2) and Lithium Thionyl Chloride (LiSOCl2).

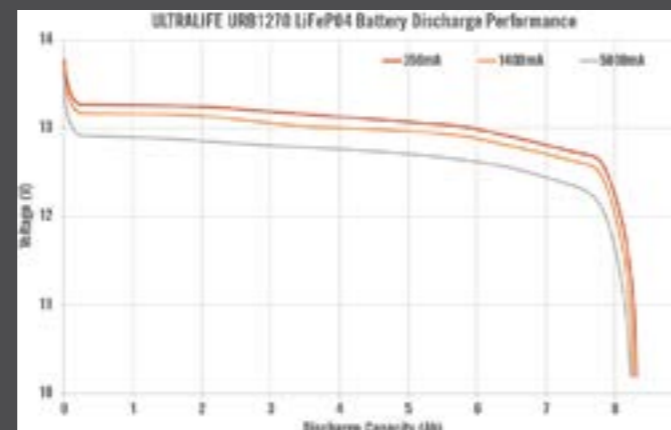
Where high voltage is required, Lithium Thionyl Chloride is generally the best choice at 3.6V (nominal). ULTRALIFE Li/SOCl2 batteries benefit from a passivation layer that allows them to be stored for longer periods with minimal loss in cell capacity. Some of the applications well-suited to this form of power are long term backup, remote metering, toll pass and IoT devices (such as wireless network nodes).

Whilst Li/SOCl2 batteries are ideal for remote metering, those utilizing LiMnO2 chemistry are perfect for applications where high currents are required after long periods of inactivity (for example, wearable devices, emergency location transmitters and smart home technology). This is because Lithium Manganese Dioxide cells offer a flat discharge curve, and a hermetically sealed nickel-plated steel container for long term shelf life.

LiFePO4 vs.SLA

ULTRALIFE Lithium Iron Phosphate (LiFePO4) 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 LiFePO4 batteries outperform Lead Acid on almost every measure.



RECHARGEABLE	SOFT PACKS	LAND WARRIOR	UBI-2590	SMART U1	URB0023	URB6450	URG0002
	Chemistry	Li-ion			LiFePO4		
Voltage (nominal)	3.7 - 14.8V	14.4 - 15.2V	10.8 - 29.6V	12.8V	25.6V	6.4V	48.0V
Capacity (nominal)	0.9 - 7.8Ah	5.5 - 13.6Ah	2.9 - 20.8Ah	38.4Ah	54.0Ah	4.5Ah	N/A
Energy (nominal)	3.3 - 77.0Wh	83.0 - 200.0Wh	84.0 - 288.0Wh	492.0Wh	1,380.0Wh	29Wh	N/A
Housing	PVC shrink wrap	Varies by product	Hard plastic			Powder coat steel frame	
Weight	24.0 - 393.0g	525.0 - 1,020.0g	655.0 - 1,640.0g	5,440.0g	15,900.0g	360 ± 50.0g	454,000.0g
Operating temperature	Varies by product	Varies by product	-32°C to +60°C (discharge)	-20°C to +60°C (discharge)	-32°C to +65°C (discharge)	-20°C to +60°C (discharge)	-20°C to +60°C (discharge)
Storage temperature	Varies by product	Varies by product	Varies by product	-40°C to +60°C	-20°C to +50°C	0°C to +40°C	-40°C to +80°C
UL 1642 (User Replaceable) Recognition	Varies by product	x	x	x	x	x	x
UN 38.3 Transport Certification	✓	✓	✓	✓	✓	✓	x

- 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
- 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
WEB www.ultralifecorp.com