

# The Lithium Ion Advantage





Ultralife's Li-lon storage solutions provide much lower total cost of ownership.

Standard Lead Acid SLA

Lithium Ion

SLA SLA SLA

1 2 3 4 5 6 7

years

Traditional battery
chemistries such as
Sealed Lead Acid (SLA) are
heavy, costly to maintain and take up more
space than Lithium Ion batteries. When you
also factor in the logistics and labor to replace
SLA every 1-2 years, Lithium Ion becomes the
clear choice. Ultralife's Lithium Ion products can be an
affordable solution to these and many other issues, especially in
remote locations, while providing a much lower "total cost of ownership" solution
over SLA.

- Lighter & Smaller More portability
  - Half the weight of SLA
  - Half the volume of SLA
  - 2x energy density per unit weight
- Longer Shelf Life
  - Replacement every 5-7 year vs. 18 months 2 years with SLA
- Temperature Range
  - No degredation at high temperatures
  - No air conditioning required
- Efficiency
  - Faster recharge time
  - 20-25% higher turnaround charge efficiency
- Cycling
  - More discharge cycles (5-10x)
  - Full depth of discharge capability vs. only 50% for SLA
- State of Charge & Remote Monitoring
  - Can be easily & remotely monitored
- Service
  - No servicing or watering required
  - No need for hydrogen gas extraction provisions



URB0001 - MKM



URB1270



URB12350

#### Lithium-lon

- Replace every 5-7 years
- Smaller & lighter less racking & infrastructure
- Time between recharges: 26 weeks
- · No air conditioning required
- Tolerates higher temperature up to 140°F (60°C)

### Sealed Lead Acid (SLA)

- Replace every 18 months 2 years
- Large & heavy difficult to replace & more infrastructure
- Time between recharges: 2 weeks
- · Spends 10% of capacity on air conditioning
- Temperature rating only to 75°F (24°C)





## **Corporate Overview**

A global corporation headquartered in Newark, New York, Ultralife has extensive North American as well as international operations in Europe, China and India backed by a direct sales and distribution network comprising resellers, distributors and agents. Through strategic growth and acquisitions, the corporation has expanded beyond its commercial and military battery business to include custom engineering design and services, tactical communications systems and a wide range of power accessories for global government and defense markets.

## **Experience and Expertise**

Harnessing the collective design and engineering expertise of its operating units to provide a single resource for innovation, integration and custom design to meet the needs of its commercial, government and defense customers. When it comes to power and communications solutions, we are a "one source, many solutions" provider.

### **Business Units**

Battery and Energy Products provides a wide range of high-energy non-rechargeable and rechargeable power and charging systems for both defense and commercial applications. Ultralife manufactures batteries using various non-rechargeable chemistries including Lithium Manganese Dioxide, Lithium Manganese Dioxide/CFx, Lithium Thionyl Chloride and rechargeable chemistries including Lithium-lon Cobalt Dioxide, Lithium-lon Iron Phosphate, Lithium-lon Manganese Oxide, Lithium Polymer and Nickel Metal Hydride. Some comprise the highest energy densities currently available. As a market leader providing batteries for military applications, Ultralife also has a solid technical base in cell and battery designs for commercial sectors such as medical, security metering, telematics and other industrial segments. Our battery technology often provides turnkey solutions based on customer requirements and specifications and when necessary, we partner with other cell manufacturers to provide the optimum solution.

Communications Systems harnesses the collective design and engineering strengths of three brands acquired via acquisition: AMTI, McDowell Research and RedBlack Communications. Each brings specific areas of expertise which have been combined into one unit to provide a single source for tactical communications solutions that support the warfighter and homeland security. From manpack kits to system and vehicle integration, Ultralife Communications Systems provides innovation and technology that meet ever changing mission requirements. Whether the soldier with "boots on the ground" or vehicular systems and integration for "comms on the move", we provide power management and communications solutions ranging from amplifiers, soldier modernization kits, to engineering and technical services for mobile, modular and fixed-site systems.