

Lithium Batteries



| | |
|-----------|---|
| Primary | Lithium Thionyl Chloride / Lithium Sulphur Di-Oxide |
| Thermal | Lithium Iron Disulphide |
| Secondary | Lithium Ion |

HBL Power Systems Limited, is a designer and manufacturer of specialised batteries and electronics for Defence, Aircraft, Telecom, Railways and Industry. The company produces batteries in Lithium, Nickel, Silver, and Lead technologies. Lithium batteries have been developed with support from DRDO in the year 1990.

Features

Lithium Thionyl Chloride Batteries are highly reliable and offer numerous advantages

High Voltage : Cell open circuit voltage is 3.6 correspondingly higher operating voltage than other conventional cells

Discharge Profile : At rated discharge, cell operating voltage remains constant at 3.3V throughout maximum discharge life

High Energy Density : Offer upto 440 wh/kg

Wide Operating Temperature : Can operate from -40°C to 70° and can withstand adverse environmental conditions

Long Shelf Life : Offers shelf life upto 5 years

Safety : Minimised Pressure system

LITHIUM THIONYL CHLORIDE BATTERIES

Spiral wound construction cells with Lithium metal as the negative electrode, Carbon as positive electrode with nickel substrate, and glass fibre separator are used. Thionyl Chloride as depolariser and electrolyte. Hermetically sealed to avoid electrolyte leakage.

CELL SPECIFICATIONS

| Type | Units | 1/3AA | 1/2AA | AA | C | D | Spl.D |
|---|-------------|-------|-------|------|------|------|-------|
| IEC | | - | 1/2R6 | R6 | R14 | R20 | - |
| Open Circuit Voltage (at ambient) | Volt | 3.67 | 3.67 | 3.67 | 3.67 | 3.67 | 3.67 |
| Nominal Voltage (at ambient, at C/100 rate) | Volt | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| Nominal Capacity (at 27°C ±2°C at C/100 rate) | Ampere hour | 0.3 | 0.85 | 1.8 | 5.0 | 12 | 14 |
| Capacity at -30°C at C/100 rate | Ampere hour | 0.15 | 0.42 | 0.9 | 3.0 | 6.0 | 7.0 |
| Maximum discharge current | | | | | | | |
| A. Continuous | mA | 50 | 50 | 100 | 1000 | 2000 | 2200 |
| B. Pulse (above 2V) | mA | 300 | 500 | 1000 | 2500 | 4000 | 4000 |
| Dimensions | | | | | | | |
| A. Diameter | mm | 14.5 | 14.5 | 14.5 | 26.2 | 33.6 | 33.6 |
| B. Height | mm | 18.0 | 25.0 | 50.0 | 50.0 | 61.5 | 70.0 |
| C. Weight | Grams | 7 | 10 | 20 | 52 | 102 | 120 |

CUSTOMIZED BATTERIES

- > Army Communication Batteries
- > STAR -V
- > COMET
- > MIRA NIGHT SIGHT

Cells for Night Vision Goggles (PRB), search and rescue beacons (SARBE) equipment battery, Air Force and Naval versions.

- > PRIBOY 2S battery for KOMAR rescue equipment of RUSSIAN Migs, SUKHOIs
- > Sonar Locator beacon batteries for naval aircraft in sea harrier
- > Mine Batteries (Certificate awaited)
- > Ranger buoy batteries (type certification in progress)
- > Cells for CMOS memory back-up of PLC/CNC machines
- > Radiation leak detector battery
- > Reserve batteries

APPLICATIONS

- > Memory back-up
- > Medical electronics
- > Avionics
- > Remote stand alone systems
- > Army communication equipments
- > Anti tank/Underwater mines
- > Submarine
- > Hand Grenades
- > Energy meters
- > Radars
- > Avalanche Victim Detectors
- > Real time clocks
- > Flow meters
- > Home security
- > Rescue beacons
- > Control systems
- > Computer applications
- > Underwater recording instruments

