HBL

LEAD-X

Advanced Technology
Pure Lead-Tin VRLA Battery

Introduction

Engineered by HBL, Lead-X redefines performance. Lead-X batteries employ Pure Lead-Tin, thin plate design for high performance. These Valve Regulated Lead Acid (VRLA) batteries are designed using Absorbent Glass Material (AGM) separators that render the batteries spill-proof. Use of AGM separators in combination with self-resealing, pressure regulating valves and a starved electrolye design enable recombination of gasses generated during normal operation. This eliminates the need for electrolyte top-up.

Pure Lead-Tin Technology

The Technology enables continuous manufacture of thin plates using automated assembly lines complete with sophisticated equipment and online quality checks.
Pure Lead-Tin Technology offers many advantages which include:

- High overall efficiency
- High energy density
- Excellent high rate performance
- Excellent low temperature performance
- High cycle life

Superior Features

- Flame retardant material casing.
- Maintenance-free and spill-proof. This enables flexible mounting.
- Compact and light weight for easy handling
- Wide operating temperature range (-40°C to +50°C)
- High energy density (gravimetric and volumetric)
- Good charge retention leading to long storage life
- Low internal resistance ensures quick recharge
- Excellent high rate capability permits use of smaller capacity batteries
- Superior raw materials for good performance and life
- Excellent deep discharge recovery characteristics
- UL recognized plastic components

Applications

Lead X batteries are the ideal choice for all applications requiring reliable back-up.
Typical applications include

- Telecommunications
- Front Terminal batteries for ETSI telecom cabinets
- UPS
- Duty Cycle

'Lead-X' Batteries are tested and verified by
Intertek testing services as per IEC/EN 60896-21 & 22-2004

Intertek

Range of 12V Monoblocs

Model	Capacity C_{10}, 1.80 (Ah)	Dimensions (mm) L	W	H	Approx.Wt. (kgs)	Terminal
LX-12 13	13	175	85	130	5	M6 (F)
LX-12 16	16	181	76	168	6	M6 (F)
LX-12 20	20	163	142	147	9	M6 (F)
LX-12 26	26	249	97	151	10	M6 (F)
LX-12 30	30	163	142	200	12	M6 (F)
LX-12 38	38	249	97	201	13	M6 (F)
LX-12 50	50	220	121	250	18	M6 (F)
LX-12 70	70	330	168	176	23	M6 (F)
LX-12 80	80	286	268	182	32	M8 (F)
LX-12 100	100	410	175	225	36	M8 (F)
LX-12 150	150	525	220	225	56	M8 (F)

Front Terminal Monoblocs

LX-12 75 FT	75	490	110	225	26	M8 (F)
LX-12 100 FT	100	510	110	240	32	M8 (F)
LX-12 110 FT	110	558	125	228	38	M8 (F)

Range of 6V Monoblocs

Model	Capacity C_{10}, 1.80 (Ah)	Dimensions (mm) L	W	H	Approx.Wt. (kgs)	Terminal
LX-6 120	120	205	197	235	23	M8 (F)
LX-6 140	140	205	197	235	25	M8 (F)

Range of 2V Monoblocs

Model	Capacity C_{10}, 1.80 (Ah)	Dimensions (mm) L	W	H	Approx.Wt. (kgs)	Terminal
LX-2 300	300	205	197	235	22	M8 (F)
LX-2 400	400	205	197	235	26	M8 (F)

* Nominal capacity is at 10 hour rate of discharge to 1.80 Vpc at 25° C

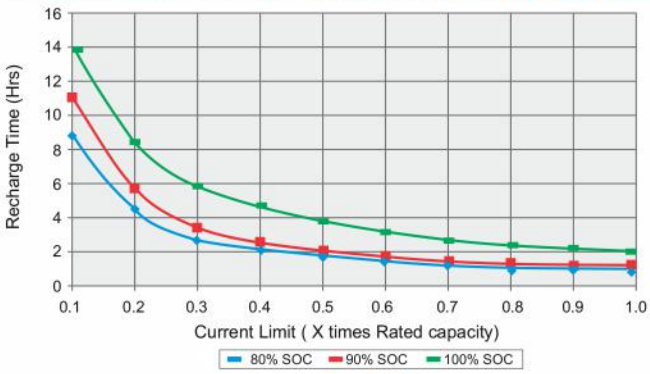
Technical Characteristics

Operation -	
Charging (Stand by Application)	Boost: 2.40 V/cell Float: 2.25 V/cell
Charging (Cyclic Application)	2.40 V/cell
Charge Current Limit	1 C_{10} A Minimum
Charger	Chargers with temperature compensation feature are to be used.
AC Ripple	Ripple current shall not exceed 3% RMS w.r.t batteries nominal capacity.
	Ripple voltage shall not exceed 1% RMS w.r.t batteries nominal voltage rating.

Fast charging

PLT Batteries can accept high charge currents to when compare to other technologies due to there low internal resistance. The maximum current limit can be as much as 1C, (equivalent to rated capacity to battery). Typical recharge characteristics are shown in graph. (Consult our application engineers for specifics regarding your UPS)

Charge Characteristics With Different Current Limits



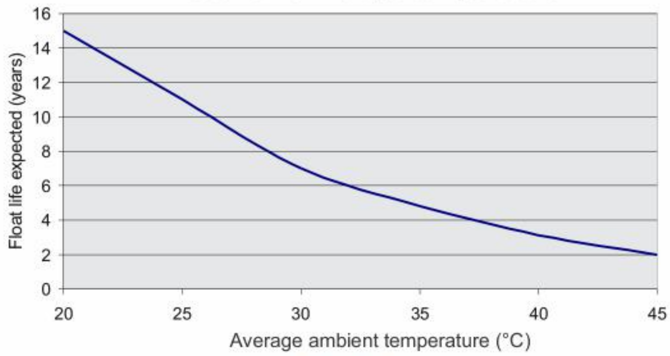
Float Life:

A float application defined based on the time interval between two successive discharges. The minimum time interval between two successive discharges must be more than 14 days and average interval may be 30 days. The life of battery is defined in calender years at standard temperature of 25°C.

The expected float life of batteries at various average ambient temperature, when floated at 2.25 volts per cell, is shown in Graph-2

Graph 2 :

Float life Vs Average temperature



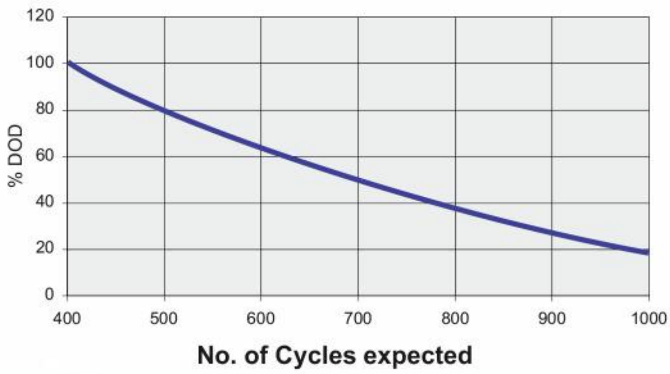
Cycle Life:

A battery may be used on a regular "cycle" of discharge – charge - discharge. Cycling regimes will adversely affect battery life depending on the frequency and the depth of discharge of each cycle - relative to the optimal float service.

The depth of discharge(DOD) is an important variable affecting the battery's cycle life expectancy. The details as shown in Graph 3 at temperature of 25°C

Graph 3:

Cycle life Vs Depth of Discharge



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