

MSB ULTRA+Plus

Maintenance-Free Rechargeable Battery

GEL
TECHNOLOGY



The new range of **VRLA ULTRA PLUS** series was designed to provide extra long life and maintain proven performance of our MSB batteries. With increased thicker plates, the cycling abilities have also been improved further. Moreover this new range comes in our standard Flame Retardant ABS containers.

Features

- Sealed
- Spill proof
- Float/ Cycle Use
- Gel Electrolyte
- High Impact Flame Retardant ABS Containers
- Low self discharge

Construction

The battery uses sulphuric acid which is immobilized with fumed silica (thickening agent) to form a special gelled mixture. Thus, if the battery container is cracked, the battery will still continue to function. Moreover the thickening agent prevents stratification by preventing the movement of electrolyte. Furthermore, the container is fully sealed thereby allowing the battery to be used in a vertical or horizontal position.*

Specifications

Voltage	: 12 Volts Blocks
Plate	: Flat Plate Lead Calcium/ Tin
Electrolyte	: Sulphuric Acid Thixotropic GEL
Separator	: Plastic
Terminal	: Brass/ Copper inserts for both positive & negative terminals
Container	: High Impact Flame Retardant ABS. FV'O' can be supplied on request
Standards	: Comply & Conform to IEC 60896-21: 2004, BS 6290 Pt. 4

*At horizontal position, the vent must not be closed by the GEL to allow for gas recombination.

Valve Regulated Gas Recombination System

The battery uses the gas recombination system whereby gases evolved are recombined internally during normal operations. This recombination is controlled by the safety release rubber valve which will only open when internal pressures exceeds 4 ~ 5 p.s.i. during 'overcharge' and automatically re-closes when internal pressures drops to less than 1 p.s.i. The design of the internal top cover and the design + position of the valve prevents any ingress from an external source which may be harmful to the operation of the battery.

Operation Temperature Range/life Expectancy

The standard thick positive plates ensures long life and cycling capabilities however high temperatures will affect its life tremendously. The operating temperature should not exceed 50C. Preferred operating temperature are between 20 ~ 30C. Battery life is affected by high ambient operating temperatures where every 10C increase will halve the life of the battery.

Design Life : 12yrs@ 20°C
Positive Plate : 3.0mm
Negative Plate : 2.0mm

Cycling Performance

The battery performs credibly in cycling applications with more than 3000 charge/ discharge cycles depending on the discharge rate, end voltage and depth of discharge.

Typical Cyclic Performance

CAPACITY TAKEN 100% : 500
 80% : 600
 50% : 900
 20% : 2400

Specifications 12V Ultra Plus

Model	Voltage	Capacity @10hr	Dimensions (mm)			Weight (kg)	Int. Res (mΩ)	Ter./hole size
			Length	Width	Height			
MSG12-100 UL PLUS	12	100	394	110	285	35	4.3	M6/16
MSG12-125 UL PLUS	12	125	551	110	287	50	3.6	M8/20
MSG12-150 UL PLUS	12	150	560	125	280	55	3.0	M8/20
MSG12-200 UL PLUS	12	200	522	268	220	80	2.4	M8/20

Performance/ Discharge 12V Ultra Plus

Constant Current (Amps) Discharge Characteristics @ 25° C to 1.80 volts per cell (vpc)

Model / Time	Rating	10min	15min	20min	30min	1h	2h	3h	4h	5h	8h	10h
MSG12-100 UL PLUS	100	183.8	127.5	120.0	97.0	57.5	33.5	24.5	19.5	16.5	11.0	10.0
MSG12-125 UL PLUS	125	229.0	158.0	150.0	121.0	72.0	42.0	30.5	24.0	20.5	13.5	12.5
MSG12-150 UL PLUS	150	275.6	191.3	180.0	145.5	86.3	50.3	36.8	29.3	24.8	16.5	15.0
MSG12-200 UL PLUS	200	367.5	255.0	240.0	194.0	115.0	67.0	49.0	39.0	33.0	22.0	20.0