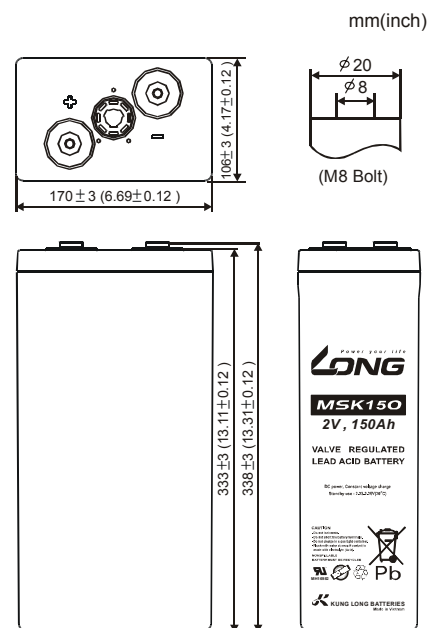


VRLA BATTERIES

maintenance-free
rechargeable sealed lead acid battery

MSK 150
2V-150AH

Outer dimensions(mm)



The LONG sealed lead-acid rechargeable battery is non-spillable and maintenance free. A valve regulated lead-acid battery is a starved electrolyte AGM type battery and has a safety valve which prevents excessive build up of gas pressure inside the battery. Valve-regulated lead acid batteries rely upon internal gas recombination to minimize electrolyte loss over the life of the battery, thereby eliminating the need for re-watering. A lead-acid battery has lead positive plates, lead oxide negative plates, and an electrolyte which is a solution of sulfuric acid and distilled water. The plates and the plate separator material between them are arranged in plate packs in plate compartments. VRLA batteries are particularly suited for remote back-up power applications because they do not require the same type of periodic maintenance required by flooded cells. These differing maintenance requirements provide cost savings.

Battery Construction

Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	UL94VO	UL94VO	Rubber	Copper	Fiberglass	Sulfuric acid

General Features

- Absorbent Glass Mat(AGM)technology for efficient gas recombination of upto 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.

Application

- Alarm System
- Medical Equipment
- Cable Television
- Control Equipment
- UPS
- Communication Equipment
- Toys
- Emergency power System
- Security System

Specifications

Nominal Voltage		2V
Number of cell		1
Capacity (10 hr 25 ^o C)		150Ah
Design Life		15 Years
Dimensions	Length	170 ± 3mm
	Width	106 ± 3mm
	Height	333 ± 3mm
	Total Height	338 ± 3mm
Approx Weight		13.55Kg(29.81Lbs)
Capacity 25 ^o C(77 ^o F)	10 hr(15A,1.8V)	150Ah
	5 hr(26.2A,1.8V)	127.5Ah
	1 hr(95A, 1.8V)	90Ah
Internal Resistance (Full charged Battery at 25 ^o C)		0.75 mΩ
Terminal material		Copper

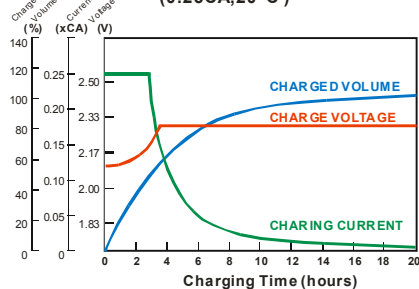
Capacity affected by Temperature(20hr)	30°C	105%
	25°C	100%
	0°C	85%
	-15°C	75%
Self-Discharge at 25°C	1 month	Remaining capacity: 94%
	3 month	Remaining capacity: 90%
	6 month	Remaining capacity: 85%
Normal operating temperature	25°C±3°C (77°F±5°F)	
Operating temperature range	-15 °C~50 °C(5~122°F)	
Storage temperature	-20 °C~60 °C(-4~140°F)	
Float charging voltage(20°C)	2.21 to 2.25V Coefficient 3.3mV/°C/cell	
Cyclic charging voltage(25°C)	2.33 to 2.36V Coefficient 5mV/°C/cell	
Maximum charging current	45A	
Maximum Discharge current	750A(5sec)	

VRLA BATTERIES

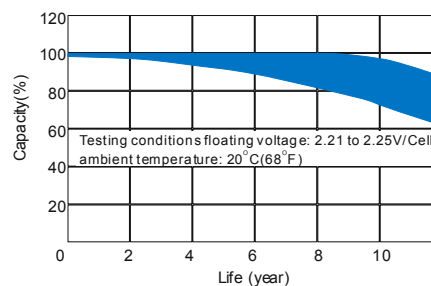
maintenance-free
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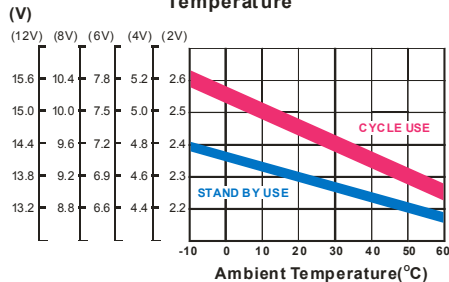
Constant Voltage Charging Characteristic
(0.25CA, 20°C)



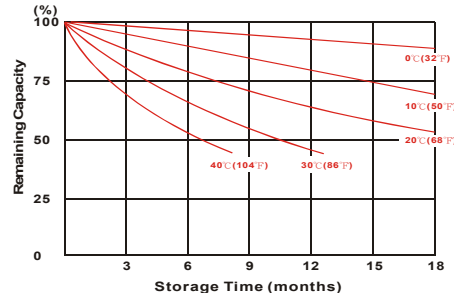
Life Characteristics Of Standby Use



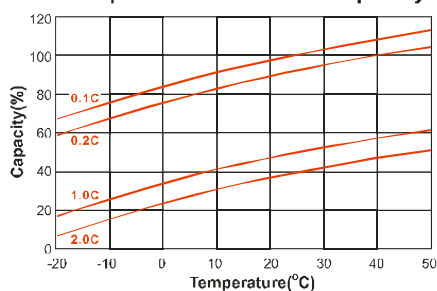
Relationship Between Charging Voltage and Temperature



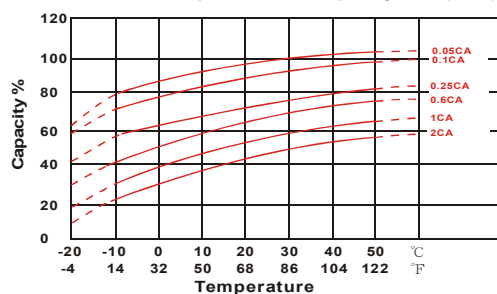
Capacity Retention Characteristic



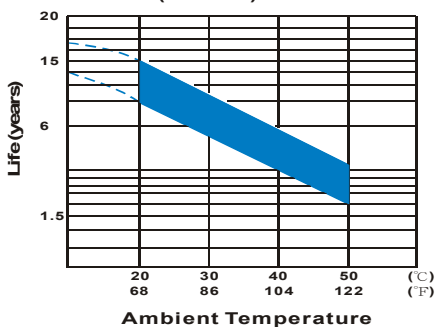
Temperature effects on capacity



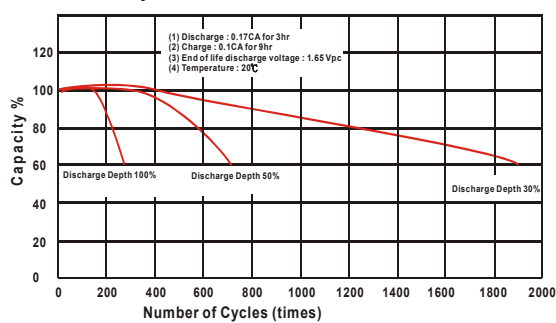
Effect of Temperature on Capacity 20°C (68°F)



Trickle (or float) Service Life



Cycle Service Life



F.V/Time	Constant Current Discharge Characteristics(Amperes,25°C)								Constant Power Discharge Characteristics(Watts,25°C)							
	20min	30min	1h	2h	3h	5h	8h	10h	20min	30min	1h	2h	3h	5h	8h	10h
1.80V	165	109	77.0	47.7	36.0	24.4	17.4	15.3	261	209	151	95.6	71.9	49.3	36.0	29.8
1.67V	183	144	90.6	53.6	39.9	27.3	18.8	16.2	324	271	177	105	78.6	54.0	38.0	32.4
1.6V	191	149	94.5	56.5	41.9	28.2	19.5	16.3	332	299	178	107	80.2	54.5	38.4	32.9

Revision 1.2



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