

MS Series

Small-size Battery

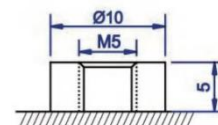
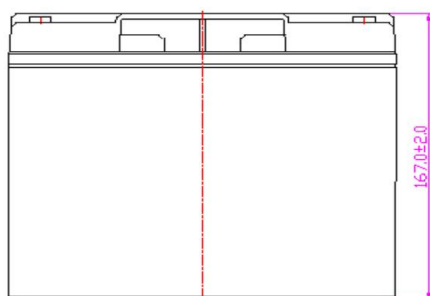
- 100% before shipment testing, stable and reliable long-term quality
- Patented grid alloy formula and updated manufacturing technique
- Completely sealed and maintenance-free, low self-discharge
- Excellent charging and re-charging acceptance
- Cycle use 2: More than 260 cycles at 100% DOD
- Floating & standby use: 3-5 years (Design life is based on ideal conditions; actual battery lifespan may vary with usage, maintenance, and environment.)

Application:

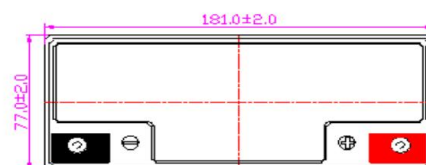
- Alarm System
- Cable Television
- Communication Equipment
- Emergency Power System
- Security System
- Medical Equipment
- UPS
- Power tools
- Control Equipment
- Toys

Construction:

- Component.....Raw material
- Positive.....Lead dioxide
- Negative.....Lead
- Container.....UL94-HB
(Optional: UL94-V0)
- Cover.....UL94-HB
(Optional: UL94-V0)
- Sealant.....Epoxy
- Safety valve.....Rubber
- Terminal.....Copper
- Separator.....Fiber glass
- Electrolyte.....Sulfuric acid



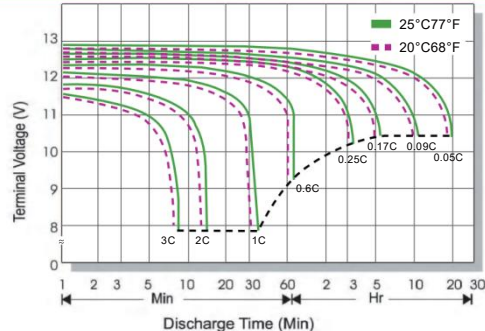
M5 Bolt



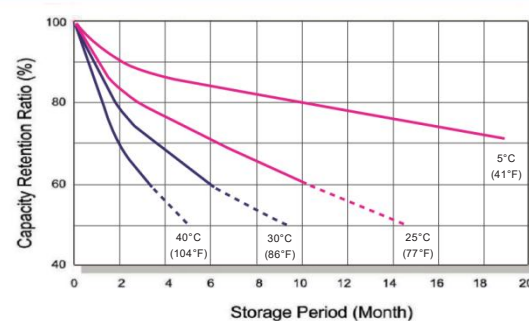
Specification:

Battery Model	MS 18-12 12V18AH			
Designed Floating Life	3~5 Year			
Capacity (25℃)	20HR(0.900A,10.5V)	10HR(1.741A,10.5V)	5HR(2.821A,10.5V)	1HR(9.311A,10.5V)
	18.00 AH	17.41 AH	14.10AH	9.31AH
Dimensions	Length	Width	Height	Total Height
	181 mm	77 mm	167 mm	167 mm
Approx. Weight	5.30Kg ±3%			
Internal Resistance	Full charged at 25℃ : ≤17.0 mΩ			
Self Discharge	2% of capacity declined per month at (25℃)			
max discharge current	60A			
Capacity Affected by Temp.(20HR)	40℃	25℃	0℃	-15℃
	102%	100%	85%	65%
Charge Voltage(25oC)	Cycle use		Float use	
	14.4-15.0V(-30mV/℃), max. Current:5.40A		13.5-13.8V (-20mV/℃)	

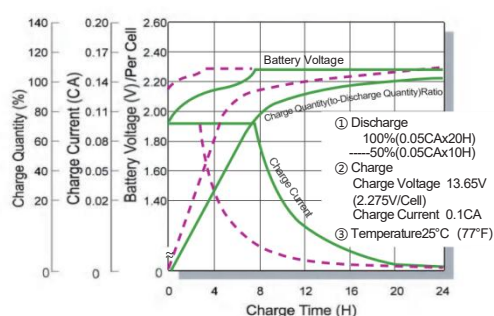
Terminal Voltage (V) and Discharge Time



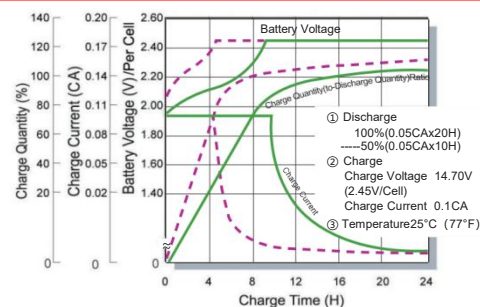
Capacity Retention Characteristic



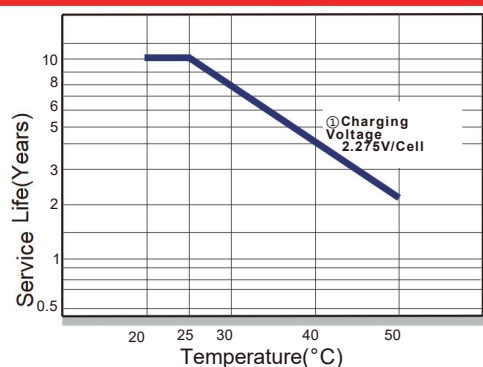
Battery Voltage and Charge Time for Standby Use



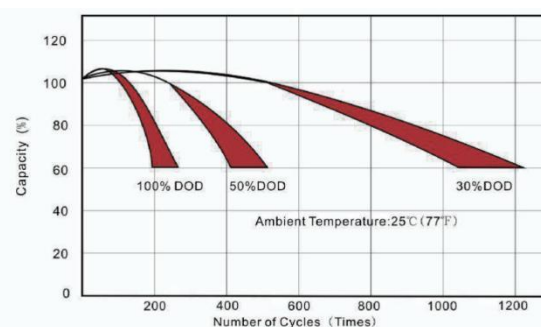
Battery Voltage and Charge Time for Cycle Use



Tickle(or Float) Service Life



Cycle Service Life



Constant Current Discharge(CC,Unit:A) at 25°C (77°F)

F.V/Time	5Min	10Min	15Min	30Min	1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	10Hr	20Hr
1.80V/Cell	58.54	36.45	27.71	15.67	9.139	6.154	4.038	3.182	2.769	2.520	1.709	0.883
1.75V/Cell	59.64	37.14	28.23	15.96	9.311	6.269	4.113	3.241	2.821	2.567	1.741	0.900
1.70V/Cell	61.43	38.25	29.07	16.44	9.590	6.457	4.237	3.339	2.906	2.644	1.793	0.927
1.67V/Cell	63.82	39.74	30.20	17.08	9.963	6.708	4.401	3.469	3.019	2.747	1.863	0.963
1.60V/Cell	67.40	41.96	31.90	18.03	10.521	7.084	4.648	3.663	3.188	2.901	1.967	1.017

Constant Power Discharge (CP,Unit:W) at 25°C (77°F)

F.V/Time	5Min	10Min	15Min	30Min	1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	10Hr	20Hr
1.80V/Cell	107.13	66.71	51.53	28.67	17.18	11.63	7.71	6.20	5.34	4.89	3.35	1.74
1.75V/Cell	109.14	67.96	52.50	29.20	17.50	11.85	7.86	6.32	5.44	4.98	3.41	1.77
1.70V/Cell	112.42	69.99	54.08	30.08	18.03	12.20	8.09	6.51	5.61	5.13	3.51	1.83
1.67V/Cell	116.79	72.72	56.18	31.25	18.73	12.68	8.41	6.76	5.83	5.33	3.65	1.90
1.60V/Cell	123.34	76.79	59.33	33.00	19.78	13.39	8.88	7.14	6.15	5.63	3.86	2.00