



# MSJ series MSJ-1000



## Valve Regulated Lead Acid Battery

Maintenance-Free Sealed Lead Acid Battery.  
Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99%.

### General Design for Standby Power Applications

#### 【Design Life】

Up to 20 Years in Standby Service at 25°C  
Eurobat (20°C) : >12 YEARS VERY LONG LIFE

#### 【Operating Temperature Range】

Nominal Operating Temperature : 25°C (77°F)  
Discharge : -15°C ~ 50°C (5°F~122°F)  
Charge: -15°C ~ 40°C (5°F~104°F)  
Storage: -15°C ~ 40°C (5°F~104°F)

#### 【Float Charging Voltage】

2.21 ~ 2.25 VDC/Unit at 25°C (77°F)

#### 【Equalization Charging Voltage】

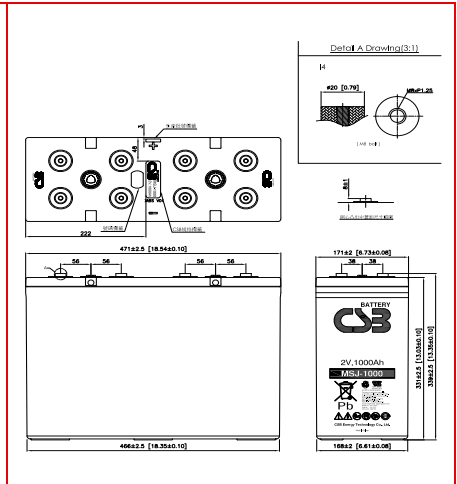
2.35 VDC/Unit at 25°C (77°F)

#### 【Self Discharge】

Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F);  
Fully recharging is required before usage, and charged sooner if stored at higher temperature than 25°C (77°F).

### Specification

Nominal Voltage	2V (single cell per unit)	
Nominal Capacity	1000 Ah @10hr-rate to 1.80V per cell @25°C (77°F)	
Weight	Approx. 72.80 Kg (160.45 lbs)	
Maximum Discharge Current	6000 A (5sec)	
Internal Resistance	Approx. 0.28 mΩ	
Short Circuit Current	--	
Maximum Charge Current	300 A	
Terminal types	I4 thread copper alloy terminal to accept M8 bolt	
Terminal tightening torque	126±25 Kgf·cm / 109±22 Lbf·in / 12.3±2.5 N·m	
Container Material	Flame Retardant ABS (UL 94-V0)	
Dimensions	Depth (D)	471.0±2.5 mm      18.54±0.10 inch
	Width (W)	171.0±2.0 mm      6.73±0.08 inch
	Container height (h)	331.0±2.5 mm      13.03±0.10 inch
	Overall Height (H)	339.0±2.5 mm      13.15±0.10 inch



### Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	15MIN	30MIN	60MIN	2HR	2.5HR	3HR	5HR	6HR	8HR	10HR	20HR	24HR
1.60V	1853	1241	760	435	362	312	197	167	130	108	53.9	44.9
1.67V	1660	1179	740	430	358	309	195	165	129	107	53.4	44.5
1.70V	1561	1139	726	426	356	307	194	164	128	106	53.2	44.3
1.75V	1403	1038	691	417	348	301	190	161	127	105	52.5	43.7
1.80V	1201	919	637	398	335	290	184	157	123	102	51.1	42.6
1.83V	1061	843	596	381	321	279	178	152	120	99.4	49.7	41.4

### Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	15MIN	30MIN	60MIN	2HR	2.5HR	3HR	5HR	6HR	8HR	10HR	20HR	24HR
1.60V	3245	2251	1381	831	692	595	390	334	256	201	100	83.6
1.67V	3016	2165	1355	823	685	590	388	332	254	199	100	82.9
1.70V	2897	2109	1335	817	681	587	386	331	253	198	99.1	82.6
1.75V	2647	1971	1280	800	669	578	381	327	249	195	97.7	81.4
1.80V	2374	1780	1194	769	645	559	372	319	242	190	94.9	79.1
1.83V	2139	1660	1126	738	622	541	362	311	234	184	92.0	76.7

Please refer to the official site for the latest rating confirmation. URL: [www.csb-battery.com](http://www.csb-battery.com)

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Recognized under UL 1989,  
and certified by ISO 9001, 14001, 45001, 50001.



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