



Measures

Technology

Values

Innovation



## VRLA Rechargeable Battery

# MSU-2000 (MSU-2000FR) (2V, 2000Ah)

### FEATURES

- Sealed structure, no electrolyte leakage or spill.
- High performance alloy to secure corrosion-proof feature.
- Unique electrolyte system achieves maximum service life.
- Special paste formula promotes the good charging acceptance.
- Electrolyte with gel technology.
- 15 years design life floating charging.

### APPLICATION

- UPS
- Central Office
- Telecom
- Energy Storage Systems



### SPECIFICATIONS

Nominal Voltage	2V	
Nominal Capacity(25°C)	10 Hour Rate F.V.(1.80V/cell)	2000 Ah
	3 Hour Rate F.V.(1.80V/cell)	1500 Ah
	1 Hour Rate F.V.(1.75V/cell)	1100 Ah
Approx. Weight	131.0Kg(288.8lbs.)	
Terminals	B6 (Fitting M8 bolt & nut)	
Max. Discharge Current	7000 A (5 sec.)	
Max. Charge Current	500 A	
Operating Temperature Range	Charge	0°C~40°C(32°F~104°F)
	Discharge	-20°C~50°C(-4°F~122°F)
	Storage	-20°C~40°C(-4°F~104°F)
Self Discharge	< 3% per month (25°C)	
Internal Resistance	≤ 0.4mΩ (Fully Charged )	
Container Material	ABS(UL94-HB, UL94-V0 is optional)	



ISO 9001

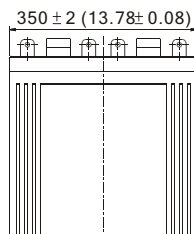
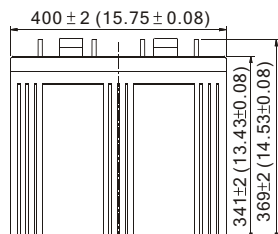
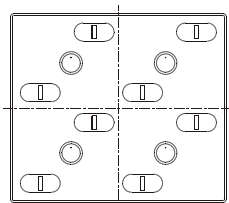


ISO14001

- IEC60896-21/22
- JIS C 8704-2
- GB/T19638.2
- YD/T799

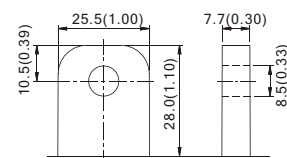
### OUTER DIMENSIONS mm(inch)

Length (L)	Width (W)	Container Height (H)	Total Height (TH)
400±2.0(15.75±0.08)	350±2.0(13.78±0.08)	341±2.0(13.43±0.08)	369±2.0(14.53±0.08)



### TERMINAL TYPE

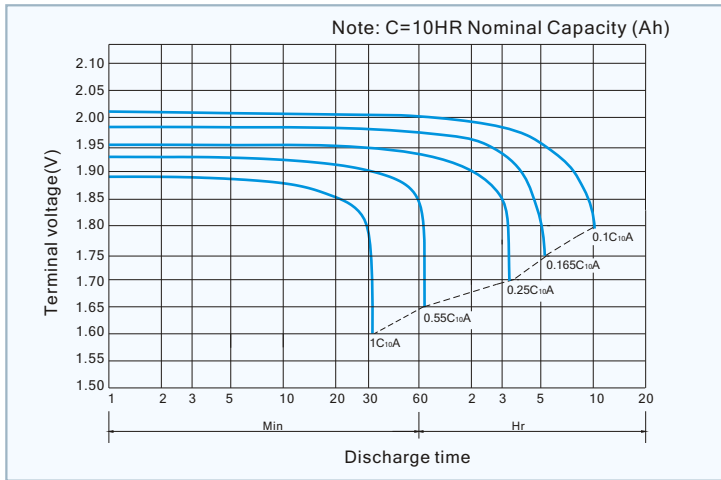
- Terminal B6



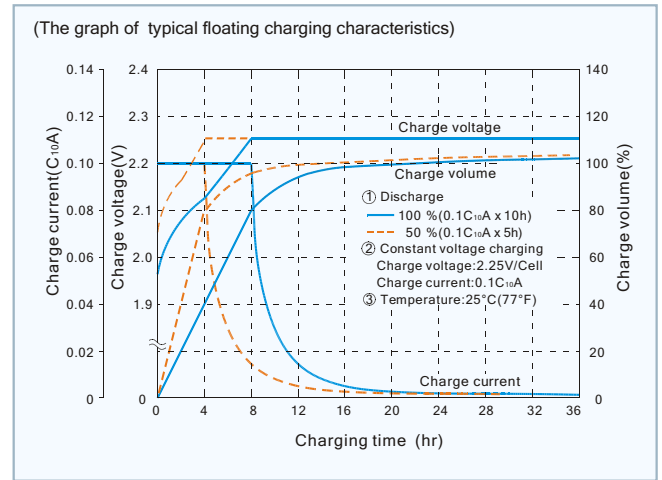
(M8 BOLT & NUT)

Terminal Hardware Initial Torque: 10.0 Nm ± 5%

**MSU-2000 (MSU-2000FR) discharge characteristics (25°C /77°F)**



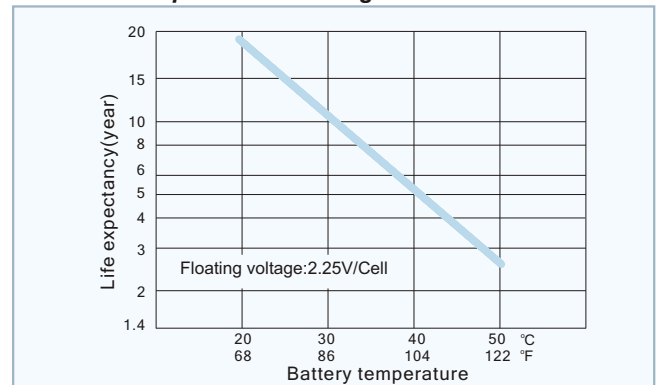
**Battery Charging Characteristics**



**Charging Procedure**

Application	Charging method	Charging Voltage at 25°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Charging time 0.1C <sub>10A</sub> , 25°C (h)	
				100% discharge	50% discharge
For standby power Source	Constant voltage (with current restriction)	2.23~2.25	-3	24	20

**Effect Of Temperature On Long Term Float Life**



**Constant power discharge characteristics at 25 °C/77 °F Unit: W**

F.V. (V/cell) \ Discharge Time	30 Min	1 Hr	2 Hr	3 Hr	4 Hr	5 Hr	6 Hr	8 Hr	10 Hr	12 Hr	20 Hr
1.85V	2623.0	1800.0	1158.0	901.9	701.1	604.0	538.0	445.0	372.0	322.40	200.88
1.80V	2910.0	1980.0	1250.0	955.5	772.0	658.0	573.0	476.0	393.7	337.96	210.65
1.75V	3188.0	2100.0	1325.0	1006.0	808.8	688.0	598.0	491.0	411.2	349.55	216.92
1.70V	3500.0	2240.0	1370.0	1040.3	825.0	705.0	613.0	501.0	425.0	357.71	220.50
1.65V	3760.0	2310.0	1390.0	1061.5	842.0	715.0	625.0	510.0	431.0	362.76	222.37
1.60V	3835.0	2330.0	1410.0	1071.6	852.0	725.0	628.0	516.0	435.0	364.44	223.00

**Constant current discharge characteristics at 25 °C/77 °F Unit: A**

F.V. (V/cell) \ Discharge Time	30 Min	1 Hr	2 Hr	3 Hr	4 Hr	5 Hr	6 Hr	8 Hr	10 Hr	12 Hr	20 Hr
1.85V	1400.0	960.0	610.0	471.6	370.0	313.1	270.0	220.0	187.0	162.07	100.98
1.80V	1560.0	1060.0	660.0	500.0	408.0	340.0	290.0	242.0	200.0	171.67	107.00
1.75V	1723.0	1130.0	703.0	529.4	428.0	360.0	310.0	253.0	211.0	179.35	111.30
1.70V	1910.0	1212.0	733.0	551.8	439.0	372.0	320.0	262.0	219.0	184.33	114.50
1.65V	2045.0	1261.0	753.0	570.1	450.0	382.0	332.0	270.0	223.0	186.69	116.00
1.60V	2150.0	1293.0	775.0	582.3	458.0	388.0	335.0	275.0	225.0	188.44	116.30

All data shall be changed without prior notice, BB reserves the right to explain and update the information contained hereinto.

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