



VRLA Rechargeable Battery

MSU-1000 (MSU-1000FR)

(2V, 1000Ah)

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 at 77°F/25°C.

APPLICATION

- UPS
- Central Office
- Telecom
- Energy Storage Systems



SPECIFICATIONS

Nominal Voltage	2V	
Nominal Capacity(25°C)	10 Hour Rate F.V.(1.80V/cell)	1000 Ah
	3 Hour Rate F.V.(1.80V/cell)	750 Ah
	1 Hour Rate F.V.(1.75V/cell)	550 Ah
Approx. Weight	60.5Kg(133.4lbs.)	
Terminals	B6 (Fitting M8 bolt & nut) I3 is optional	
Max. Discharge Current	4000 A (5 sec.)	
Max. Charge Current	250 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	≤ 0.5mΩ (Fully Charged)	
Container Material	ABS(UL94-HB, UL94-V0 is optional)	




ISO 9001



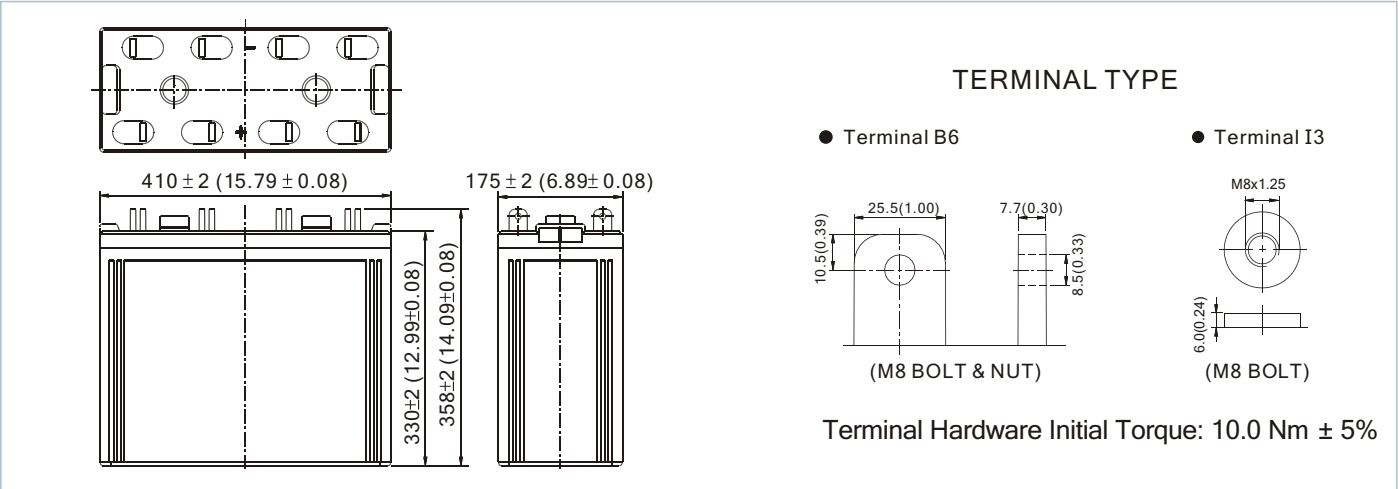
ISO 14001



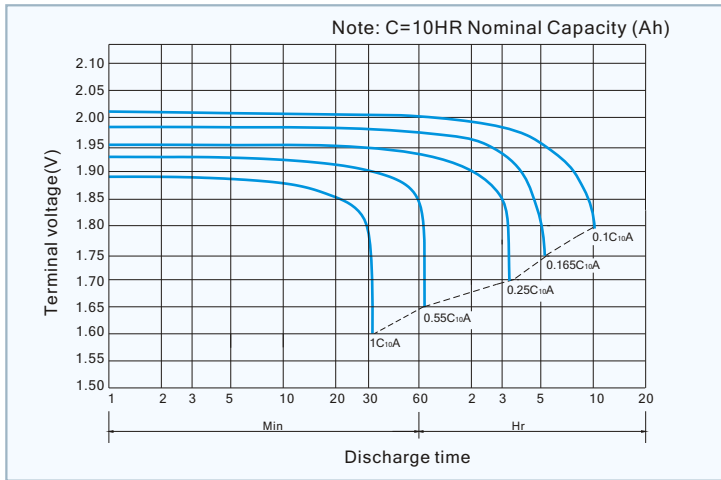
MH19884

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

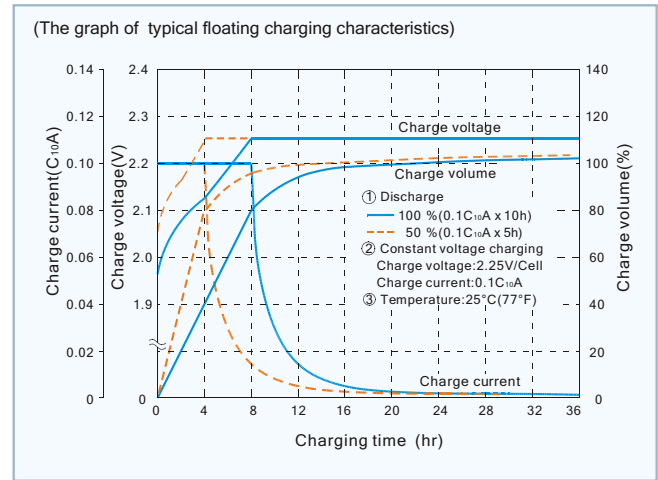
OUTER DIMENSIONS mm(inch)	Length (L)	Width (W)	Container Height (H)	Total Height (TH)
	410±2.0(15.79±0.08)	175±2.0(6.89±0.08)	330±2.0(12.99±0.08)	358±2.0(14.09±0.08)



MSU-1000 (MSU-1000FR) discharge characteristics (25°C /77°F)



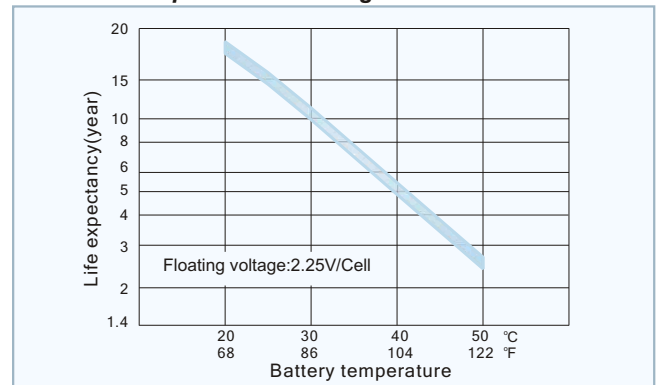
Battery Charging Characteristics



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 _{10A} , 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	1311.5	900.0	579.0	451.0	350.5	302.0	269.0	222.5	186.0	161.20	100.44
1.80V	1455.0	990.0	625.0	477.7	386.0	329.0	286.5	238.0	196.9	168.98	105.33
1.75V	1594.0	1050.0	662.5	503.0	404.4	344.0	299.0	245.5	205.6	174.77	108.46
1.70V	1750.0	1120.0	685.0	520.2	412.5	352.5	306.5	250.5	212.5	178.85	110.25
1.65V	1880.0	1155.0	695.0	530.8	421.0	357.5	312.5	255.0	215.5	181.38	111.18
1.60V	1917.5	1165.0	705.0	535.8	426.0	362.5	314.0	258.0	217.5	182.22	111.50

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	700.0	480.0	305.0	235.8	185.0	156.6	135.0	110.0	93.5	81.03	50.49
1.80V	780.0	530.0	330.0	250.0	204.0	170.0	145.0	121.0	100.0	85.83	53.50
1.75V	861.5	565.0	351.5	264.7	214.0	180.0	155.0	126.5	105.5	89.68	55.65
1.70V	955.0	606.0	366.5	275.9	219.5	186.0	160.0	131.0	109.5	92.16	57.25
1.65V	1022.5	630.5	376.5	285.1	225.0	191.0	166.0	135.0	111.5	93.35	58.00
1.60V	1075.0	646.5	387.5	291.2	229.0	194.0	167.5	137.5	112.5	94.22	58.15

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

A/3 REV. Nov. 2010

USA:
 B&B BATTERY(USA) INC.
 6415 RANDOLPH ST.COMMERCE, CA,90040 U.S.A.
 TEL:1-323-278-1900.1-800-278-8599
 FAX:1-323-278-1268
 E-Mail:sales@bb-battery.com

CHINA FACTORY:
 B.B. BATTERY CO., LTD.
 CHENG DONG TRIAL AREA,HUANG GANG,
 RAOPING, GUANG DONG,CHINA,515700
 TEL:86-768-7601001-2
 FAX:86-768-7601469
 E-Mail:maggy@bb-battery.com

EUROPE:
 B&B BATTERY(EUROPE) B.V.
 SUITE 8, HAAKSBERGWEG 33, 1101
 BP AMSTERDAM, THE NETHERLANDS
 TEL: 31-30-3200190
 MOBILE: 886-933896989
 E-Mail: gary@bb-battery.com

HONG KONG:
 B&B BATTERY(Hong Kong) Co.
 TEL:852-2311-4918
 FAX:852-2739-1182
 E-Mail:bbhk@hkstar.com

JAPAN:
 B&B BATTERY(JAPAN) CO., LTD.
 1375-11 NARAHARA-MACHI,HACHIOJI,
 TOKYO 193-0803,JAPAN.
 TEL:81-426-25-6375
 FAX:81-426-25-6375
 E-Mail:miyata@bb-battery.com

TAIWAN:
 B.B. BATTERY(TAIWAN) CO., LTD.
 TEL:886-6-502-5150
 FAX:886-6-589-8087
 E-Mail:kevin@bb-battery.com