



VRLA Rechargeable Battery

MSU-400 (MSU-400FR) (2V, 400Ah)



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)	400 Ah
	3 Hour Rate F.V.(1.80V/cell)	300 Ah
	1 Hour Rate F.V.(1.75V/cell)	220 Ah
Approx. Weight	24.5Kg(54.0lbs.)	
Terminals	B6 (Fitting M8 bolt & nut) I3 is optional	
Max. Discharge Current	1760 A (5 sec.)	
Max. Charge Current	100 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	≤ 0.8mΩ (Fully Charged)	
Container Material	ABS(UL94-HB, UL94-V0 is optional)	



ISO 9001



ISO14001

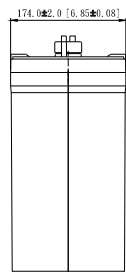
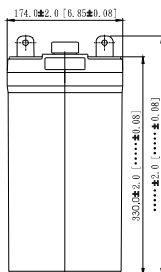
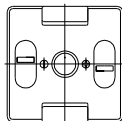


MH19884

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

OUTER DIMENSIONS mm(Inch)

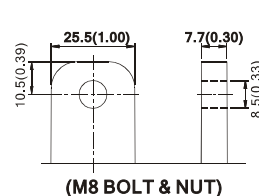
Length (L)	Width (W)	Container Height (H)	Total Height (TH)
174±2.0(6.85±0.08)	174±2.0(6.85±0.08)	330.0±2.0(12.99±0.08)	360.0±2.0(14.17±0.08)



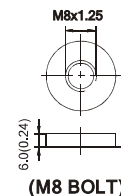
TERMINAL TYPE

● Terminal B6

● Terminal I3



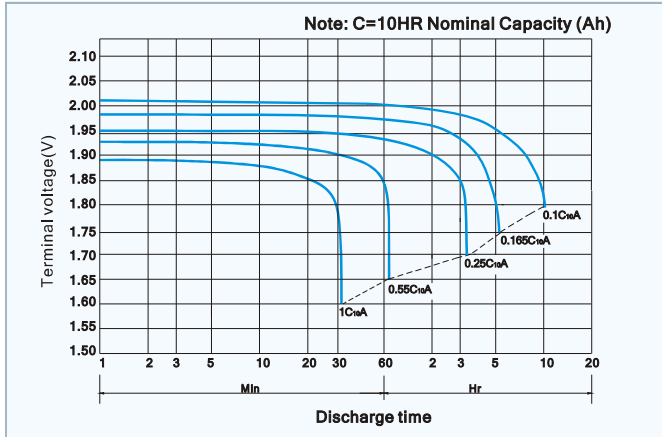
(M8 BOLT & NUT)



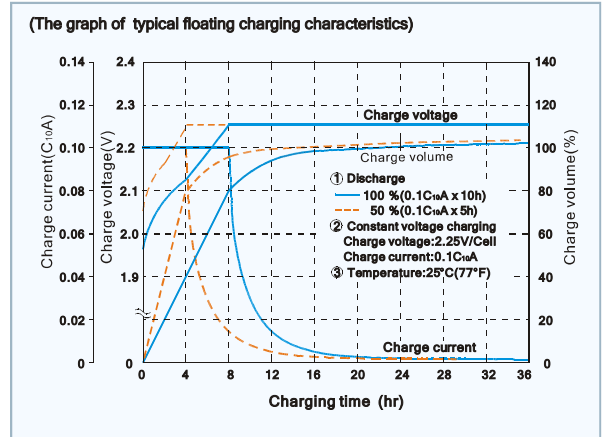
(M8 BOLT)

Terminal Hardware Initial Torque: 10.0 Nm ± 5%

MSU-400 (MSU-400FR) discharge characteristics (25°C /77°F)



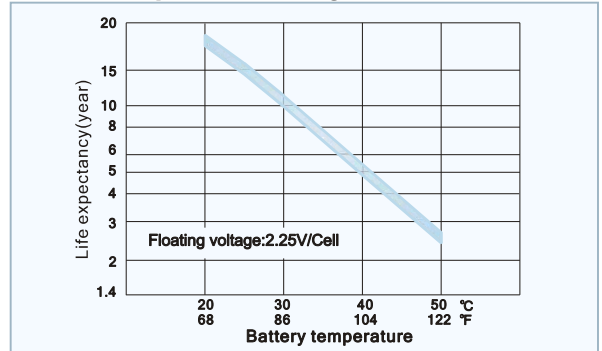
Battery Charging Characteristics



Charging Procedure

Application	Charging method	Charging Voltage at 25°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Charging time 0.1CmA, 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		524.6	360.0	231.6	180.4	140.2	120.8	107.6	89.0	74.4	64.48	40.18
1.80V		582.0	396.0	250.0	191.1	154.4	131.6	114.6	95.2	78.7	67.59	42.13
1.75V		637.6	420.0	265.0	201.2	161.8	137.6	119.6	98.2	82.2	69.91	43.38
1.70V		700.0	448.0	274.0	208.1	165.0	141.0	122.6	100.2	85.0	71.54	44.10
1.65V		752.0	462.0	278.0	212.3	168.4	143.0	125.0	102.0	86.2	72.55	44.47
1.60V		767.0	466.0	282.0	214.3	170.4	145.0	125.6	103.0	87.0	72.89	44.60

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		280.0	192.0	122.0	94.3	74.0	62.6	54.0	44.0	37.4	32.41	20.20
1.80V		312.0	212.0	132.0	100.0	81.6	68.0	58.0	48.4	40.0	34.33	21.40
1.75V		344.6	226.0	140.6	105.9	85.6	72.0	62.0	50.6	42.2	35.87	22.26
1.70V		382.0	242.4	146.6	110.4	87.8	74.4	64.0	52.4	43.8	36.87	22.90
1.65V		409.0	252.2	150.6	114.0	90.0	76.4	66.4	54.0	44.6	37.34	23.20
1.60V		430.0	258.6	155.0	116.5	91.6	77.6	67.0	55.0	45.0	37.69	23.26

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

Trials A/2 REV. Nov.2010

<p>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</p> <p>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</p>	<p>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</p> <p>HONG KONG: B&B BATTERY(Hong Kong) Co. TEL:852-2311-4918 FAX:852-2739-1182 E-Mail:bbhk@hkstar.com</p>	<p>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</p> <p>TAIWAN: B.B. BATTERY(TAIWAN) CO., LTD. TEL:886-6-502-5150 FAX:886-6-589-8087 E-Mail:kevin@bb-battery.com</p>
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