

VRLA Rechargeable Battery

MSU-500 (MSU-500FR)

(2V, 500Ah)

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) | 500 Ah |
| | 3 Hour Rate F.V.(1.80V/cell) | 375 Ah |
| | 1 Hour Rate F.V.(1.75V/cell) | 275 Ah |
| Approx. Weight | 30.8Kg(67.9lbs.) | |
| Terminals | B6 (Fitting M8 bolt & nut) I3 is optional | |
| Max. Discharge Current | 2200 A (5 sec.) | |
| Max. Charge Current | 125 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



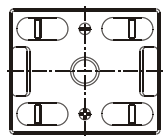
ISO 14001



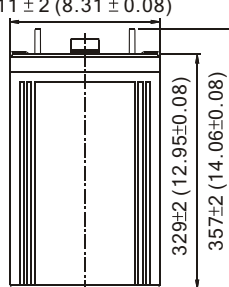
MH19884

- 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) |
|---------------------------|------------|--------------------|----------------------|---------------------|
| | | 211±2.0(8.31±0.08) | 176±2.0(6.92±0.08) | 329±2.0(12.95±0.08) |

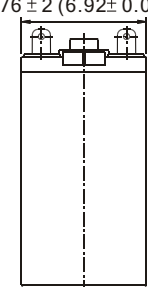


211 ± 2 (8.31 ± 0.08)



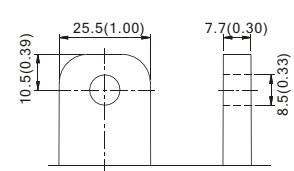
329±2 (12.95±0.08)
357±2 (14.06±0.08)

176 ± 2 (6.92 ± 0.08)



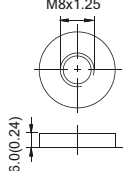
TERMINAL TYPE

● Terminal B6



(M8 BOLT & NUT)

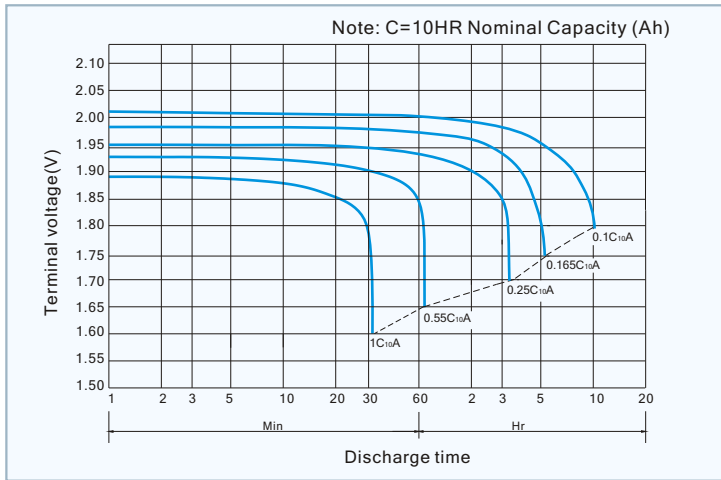
● Terminal I3



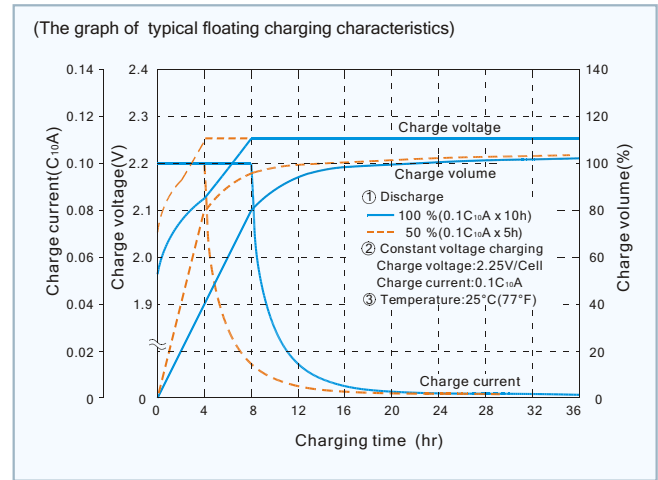
(M8 BOLT)

Terminal Hardware Initial Torque: 10.0 Nm ± 5%

MSU-500 (MSU-500FR) discharge characteristics (25°C /77°F)



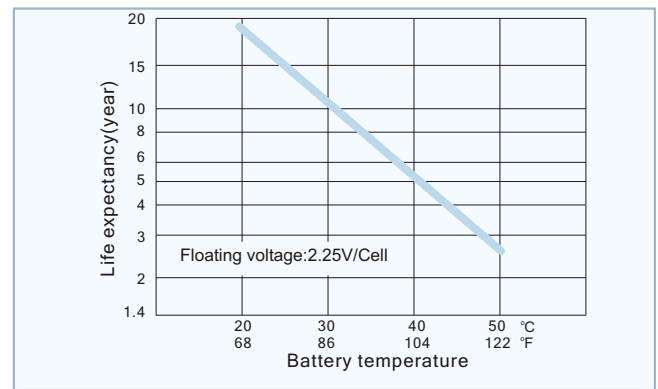
Battery Charging Characteristics



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 | 655.8 | 450.0 | 289.5 | 225.5 | 175.3 | 151.0 | 134.5 | 111.3 | 93.0 | 80.60 | 50.22 |
| 1.80V | 727.5 | 495.0 | 312.5 | 238.9 | 193.0 | 164.5 | 143.3 | 119.0 | 98.4 | 84.49 | 52.66 |
| 1.75V | 797.0 | 525.0 | 331.3 | 251.5 | 202.2 | 172.0 | 149.5 | 122.8 | 102.8 | 87.39 | 54.23 |
| 1.70V | 875.0 | 560.0 | 342.5 | 260.1 | 206.3 | 176.3 | 153.3 | 125.3 | 106.3 | 89.43 | 55.13 |
| 1.65V | 940.0 | 577.5 | 347.5 | 265.4 | 210.5 | 178.8 | 156.3 | 127.5 | 107.8 | 90.69 | 55.59 |
| 1.60V | 958.8 | 582.5 | 352.5 | 267.9 | 213.0 | 181.3 | 157.0 | 129.0 | 108.8 | 91.11 | 55.75 |

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 | 350.0 | 240.0 | 152.5 | 117.9 | 92.5 | 78.3 | 67.5 | 55.0 | 46.8 | 40.52 | 25.25 |
| 1.80V | 390.0 | 265.0 | 165.0 | 125.0 | 102.0 | 85.0 | 72.5 | 60.5 | 50.0 | 42.92 | 26.75 |
| 1.75V | 430.8 | 282.5 | 175.8 | 132.4 | 107.0 | 90.0 | 77.5 | 63.3 | 52.8 | 44.84 | 27.83 |
| 1.70V | 477.5 | 303.0 | 183.3 | 137.9 | 109.8 | 93.0 | 80.0 | 65.5 | 54.8 | 46.08 | 28.63 |
| 1.65V | 511.3 | 315.3 | 188.3 | 142.5 | 112.5 | 95.5 | 83.0 | 67.5 | 55.8 | 46.67 | 29.00 |
| 1.60V | 537.5 | 323.3 | 193.8 | 145.6 | 114.5 | 97.0 | 83.8 | 68.8 | 56.3 | 47.11 | 29.08 |

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

A/4 REV. Jan. 2011

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