

Specifications

Nominal Voltage(V)

12V

Nominal Capacity

| | | | | |
|--------------|-------|----|---------|---------|
| 20 hour rate | (2A | to | 10.50V) | 40Ah |
| 10 hour rate | (3.8A | to | 10.50V) | 38Ah |
| 5 hour rate | (6.8A | to | 10.20V) | 34Ah |
| 1 C | (40A | to | 9.60V) | 22.67Ah |
| 3 C | (120A | to | 9.60V) | 16Ah |

Weight

Approx. 13.4kg(29.5Lbs.)

Internal Resistance (at 1KHz)

Approx. 7.5 mΩ

Maximum Discharge Current for

5 seconds: 480A

Charging Methods at 25°C(77°F)

| | |
|----------------------------|----------------|
| Cycle use: | |
| Charging Voltage | 14.4 to 15.0V |
| Coefficient | -5.0mV/°C/cell |
| Maximum Charging Current : | 12A |
| Standby use: | |
| Float Charging Voltage | 13.5 to 13.8V |
| Coefficient | -3.0mV/°C/cell |

Operating Temperature Range

| | | | |
|-----------|------------|----|-------------|
| Charge | -15°C(5°F) | to | 40°C(104°F) |
| Discharge | -15°C(5°F) | to | 50°C(122°F) |
| Storage | -15°C(5°F) | to | 40°C(104°F) |

Charge Retention (shelf life) at 20°C(68°F)

| | |
|---------|-----|
| 1 month | 92% |
| 3 month | 90% |
| 6 month | 80% |

Case Material

ABS UL94 HB
Option: Flammability resistance of (UL94 V-0)

Design Life

3-5 Years.

Terminal

F8



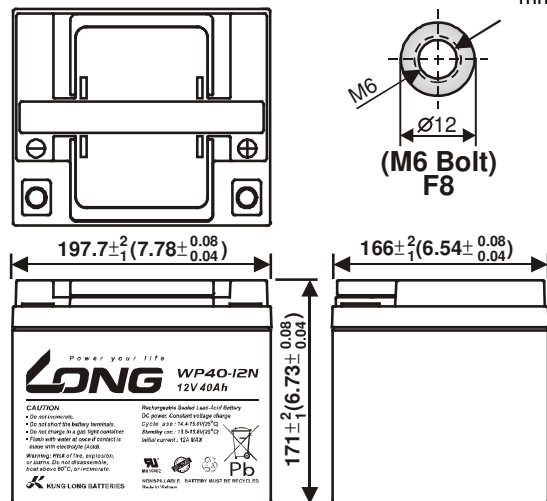
Dimensions

| | |
|---------------------|----------------------------|
| Length (L) | 197.7+2-1 (7.78+0.08-0.04) |
| Width (W) | 166+2-1 (6.54+0.08-0.04) |
| Height (H) | 171+2-1 (6.73+0.08-0.04) |
| Overall Height (HT) | 171+2-1 (6.73+0.08-0.04) |

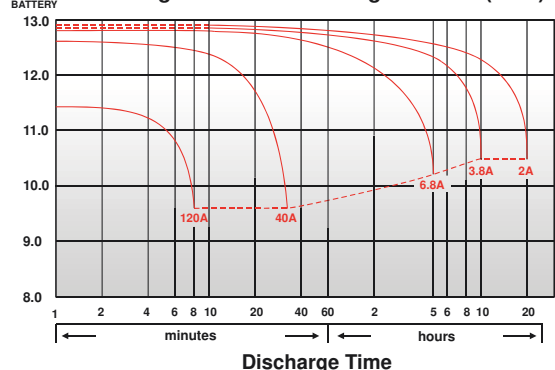
Description of torque value of hard ware for the terminals:

| | |
|--------------------------------|------------------------|
| Recommended torque value | M6: 7 N-m (71kgf-cm) |
| Maximum allowable torque value | M6: 10 N-m (102kgf-cm) |

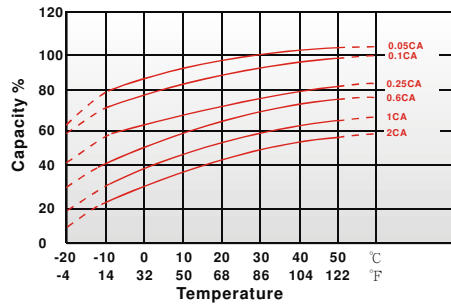
mm(inch)



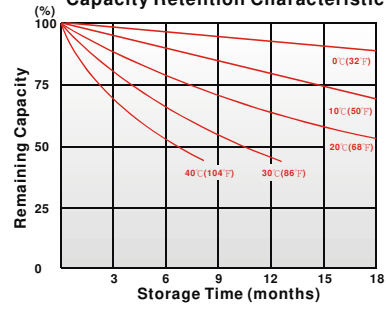
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



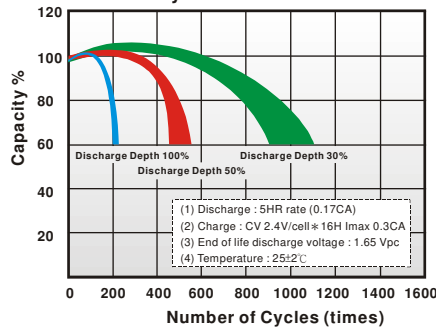
Effect of Temperature on Capacity 25°C (77°F)



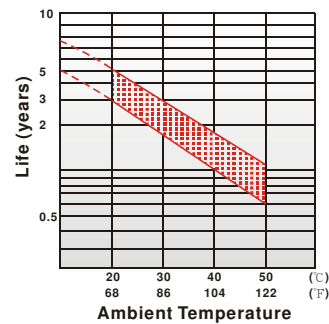
Capacity Retention Characteristic



Cycle Service Life



Trickle (or float) Service Life



- PERFORMANCE DATA

Discharge Rates in Watts to Various End Voltages at 25°C (77°F)

| End Voltage | | 1.85V | 1.80V | 1.75V | 1.70V | 1.67V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| 6 | min | 249 | 266 | 281 | 290 | 293 | 295 | 299 |
| 8 | min | 205 | 218 | 231 | 237 | 239 | 241 | 244 |
| 10 | min | 178 | 189 | 198 | 204 | 205 | 207 | 209 |
| 15 | min | 135 | 142 | 149 | 152 | 153 | 154 | 156 |
| 20 | min | 112 | 118 | 123 | 125 | 126 | 127 | 128 |
| 30 | min | 84.8 | 88.6 | 91.8 | 93.5 | 94.2 | 94.6 | 95.5 |
| 60 | min | 62.9 | 65.3 | 66.6 | 67.1 | 67.3 | 67.6 | 67.9 |
| 90 | min | 43.5 | 45.2 | 46.0 | 46.3 | 46.5 | 46.7 | 46.9 |
| 120 | min | 33.5 | 34.8 | 35.4 | 35.6 | 35.8 | 35.9 | 36.1 |
| 180 | min | 23.3 | 24.1 | 24.5 | 24.7 | 24.7 | 24.8 | 24.9 |
| 240 | min | 18.0 | 18.6 | 18.9 | 19.0 | 19.1 | 19.1 | 19.2 |
| 300 | min | 14.6 | 15.2 | 15.4 | 15.5 | 15.5 | 15.6 | 15.7 |
| 480 | min | 9.56 | 9.88 | 10.0 | 10.1 | 10.1 | 10.1 | 10.2 |
| 600 | min | 6.93 | 7.15 | 7.35 | 7.55 | 7.63 | 7.73 | 7.87 |
| 1200 | min | 3.55 | 3.75 | 3.93 | 4.08 | 4.15 | 4.23 | 4.35 |

- Discharge Rates in Amperes to Various End Voltages at 25°C (77°F)

| End Voltage | | 1.85V | 1.80V | 1.75V | 1.70V | 1.67V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| 6 | min | 141 | 150 | 159 | 164 | 166 | 167 | 169 |
| 8 | min | 114 | 121 | 128 | 132 | 133 | 134 | 135 |
| 10 | min | 97.0 | 103 | 108 | 111 | 112 | 113 | 114 |
| 15 | min | 72.1 | 76.1 | 79.6 | 81.4 | 82.2 | 82.6 | 83.5 |
| 20 | min | 58.5 | 61.4 | 64.0 | 65.4 | 65.9 | 66.2 | 66.9 |
| 30 | min | 43.5 | 45.5 | 47.1 | 48.0 | 48.3 | 48.5 | 49.0 |
| 60 | min | 31.7 | 32.9 | 33.6 | 33.8 | 33.9 | 34.1 | 34.2 |
| 90 | min | 21.9 | 22.7 | 23.1 | 23.3 | 23.4 | 23.5 | 23.6 |
| 120 | min | 16.8 | 17.5 | 17.8 | 17.9 | 18.0 | 18.0 | 18.1 |
| 180 | min | 11.6 | 12.0 | 12.2 | 12.3 | 12.4 | 12.4 | 12.5 |
| 240 | min | 8.94 | 9.25 | 9.40 | 9.47 | 9.50 | 9.53 | 9.57 |
| 300 | min | 7.29 | 7.54 | 7.66 | 7.72 | 7.74 | 7.77 | 7.80 |
| 480 | min | 4.75 | 4.91 | 4.98 | 5.01 | 5.03 | 5.04 | 5.06 |
| 600 | min | 3.92 | 4.04 | 4.10 | 4.13 | 4.14 | 4.15 | 4.17 |
| 1200 | min | 2.08 | 2.14 | 2.17 | 2.19 | 2.19 | 2.20 | 2.20 |

All data on the spec. sheet is an average value:

The tolerance range : $X < 6\text{min}$ (+15%~-15%), $6\text{min} \leq X < 10\text{min}$ (+12%~-12%), $10\text{min} \leq X < 60\text{min}$ (+8%~-8%), $X \geq 60\text{min}$ (+5%~-5%)