

⚡ Specifications

Nominal Voltage(V)

12V

Nominal Capacity

| | | | | |
|--------------|--------|----|---------|------|
| 20 hour rate | (3A | to | 10.50V) | 60Ah |
| 10 hour rate | (5.7A | to | 10.50V) | 57Ah |
| 5 hour rate | (10.2A | to | 10.20V) | 51Ah |
| 1C | (60A | to | 9.60V) | 38Ah |
| 3C | (180A | to | 9.60V) | 24Ah |

Weight

Approx. 20.5kg(45.1Lbs.)

Internal Resistance (at 1KHz)

Approx. 6.5 mΩ

Maximum Discharge Current for

5 seconds:720A

Charging Methods at 25°C(77°F)

| | |
|----------------------------|---------------|
| Maximum Charging Current : | 18A |
| 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 | 98% |
| 3 month | 94% |
| 6 month | 85% |

Case Material

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

Design Life & Standard

Expected Trickle Design Life: 10-12 years at 20°C according to Eurobat.

Terminal

F8



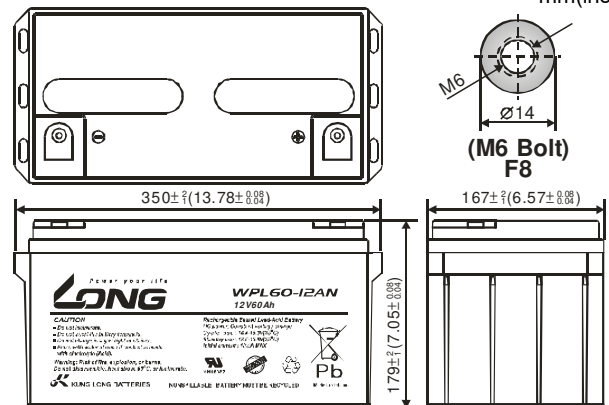
⚡ Dimensions

| | |
|---------------------|---------------------------|
| Length (L) | 350±2-1 (13.78±0.08-0.04) |
| Width (W) | 167±2-1 (6.57±0.08-0.04) |
| Height (H) | 179±2-1 (7.05±0.08-0.04) |
| Overall Height (HT) | 179±2-1 (7.05±0.08-0.04) |

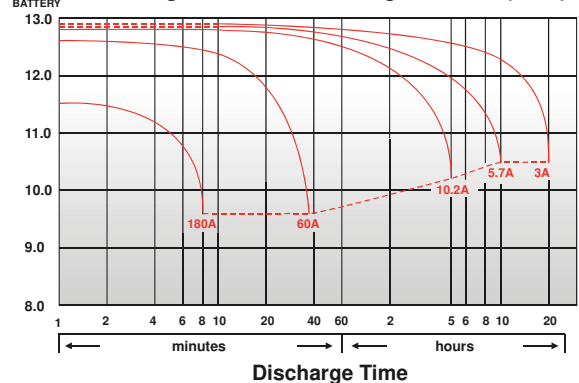
Description of torque value of hard ware for the terminals:

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

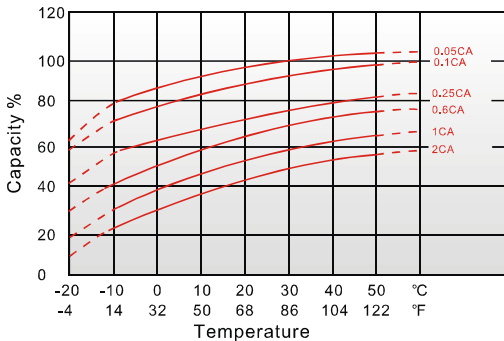
mm(inch)



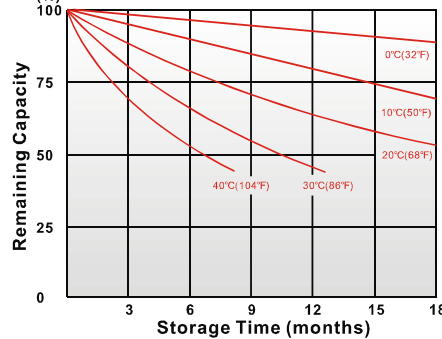
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



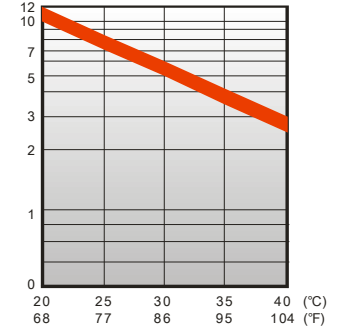
Effect of Temperature on Capacity 25°C(77°F)



Capacity Retention Characteristic



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 | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|
| Time | | | | | | | |
| 5 | min | 218 | 258 | 298 | 312 | 328 | 360 |
| 10 | min | 178 | 208 | 233 | 243 | 253 | 263 |
| 15 | min | 157 | 172 | 184 | 195 | 206 | 217 |
| 20 | min | 147 | 156 | 166 | 173 | 182 | 191 |
| 30 | min | 104 | 120 | 131 | 136 | 140 | 147 |
| 60 | min | 66.2 | 73.8 | 77.5 | 79.0 | 81.1 | 83.4 |
| 90 | min | 45.0 | 46.7 | 48.7 | 51.7 | 56.7 | 63.3 |
| 120 | min | 36.2 | 42.3 | 46.7 | 48.4 | 49.4 | 50.8 |
| 180 | min | 29.5 | 33.2 | 33.7 | 34.5 | 35.8 | 36.8 |
| 240 | min | 20.8 | 22.0 | 23.7 | 24.3 | 24.8 | 25.5 |
| 300 | min | 18.8 | 19.5 | 20.7 | 21.0 | 21.3 | 21.7 |
| 480 | min | 14.6 | 15.5 | 15.7 | 15.9 | 16.1 | 16.2 |
| 600 | min | 12.2 | 12.9 | 13.1 | 13.2 | 13.4 | 13.5 |
| 1200 | min | 6.76 | 6.82 | 6.87 | 7.01 | 7.09 | 7.12 |

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

| End Voltage | | 1.85V | 1.80V | 1.75V | 1.70V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|
| Time | | | | | | | |
| 5 | min | 127 | 140 | 168 | 182 | 197 | 211 |
| 10 | min | 105 | 120 | 131 | 137 | 142 | 154 |
| 15 | min | 81.8 | 98.9 | 108 | 112 | 119 | 125 |
| 20 | min | 69.0 | 77.9 | 83.8 | 86.7 | 91.2 | 94.8 |
| 30 | min | 56.2 | 64.1 | 66.7 | 67.5 | 68.2 | 70.2 |
| 60 | min | 36.7 | 37.7 | 39.5 | 40.7 | 42.1 | 43.7 |
| 90 | min | 25.5 | 26.6 | 28.9 | 29.6 | 30.4 | 31.7 |
| 120 | min | 19.9 | 21.7 | 22.5 | 23.0 | 23.6 | 24.4 |
| 180 | min | 16.6 | 17.9 | 18.3 | 18.6 | 19.0 | 19.3 |
| 240 | min | 11.3 | 11.9 | 12.3 | 12.6 | 13.0 | 13.3 |
| 300 | min | 9.59 | 10.2 | 10.5 | 10.8 | 11.1 | 11.5 |
| 480 | min | 7.40 | 7.85 | 7.98 | 8.10 | 8.22 | 8.30 |
| 600 | min | 6.18 | 6.32 | 6.58 | 6.67 | 6.81 | 6.84 |
| 1200 | min | 3.42 | 3.45 | 3.48 | 3.55 | 3.59 | 3.61 |

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%)

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