

Specifications

Nominal Voltage(V)

12V

Nominal Capacity

| | | | | |
|--------------|--------|----|---------|--------|
| 10 hour rate | (9A | to | 10.80V) | 90Ah |
| 5 hour rate | (15.3A | to | 10.20V) | 76.5Ah |
| 1 hour rate | (54A | to | 9.60V) | 54Ah |

Weight

Approx. 29.0kg(63.8Lbs.)

Internal Resistance (at 1KHz)

Approx. 4.5 mΩ

Maximum Discharge Current for

5 seconds: 1080A

Charging Methods at 25°C(77°F)

| | |
|----------------------------|---------------|
| Maximum Charging Current : | 27A |
| 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

F18



Dimensions

Length (L) 329.5±3 (12.97±0.12)

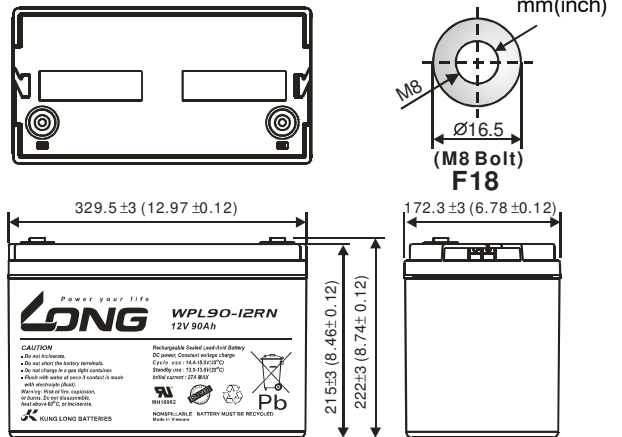
Width (W) 172.3±3 (6.78±0.12)

Height (H) 215±3 (8.46±0.12)

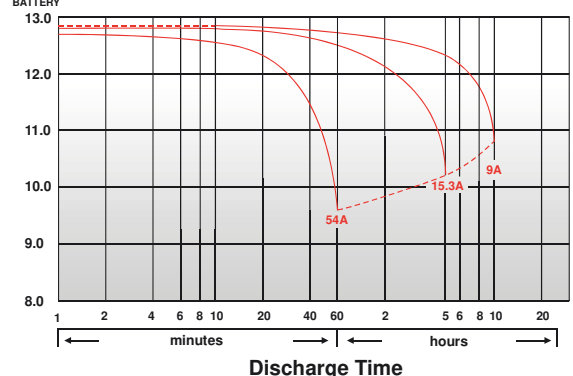
Overall Height (HT) 222±3 (8.74±0.12)

Description of torque value of hard ware for the terminals:

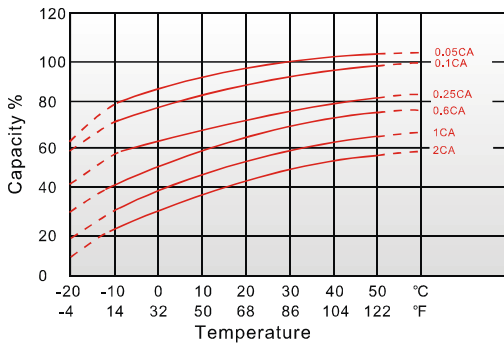
| | |
|--------------------------------|-----------------------|
| Recommended torque value | M8:12 N-m (122kgf-cm) |
| Maximum allowable torque value | M8:20 N-m (204kgf-cm) |



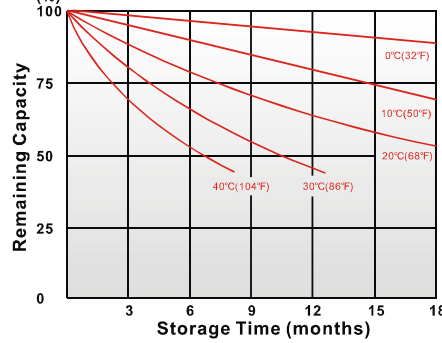
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



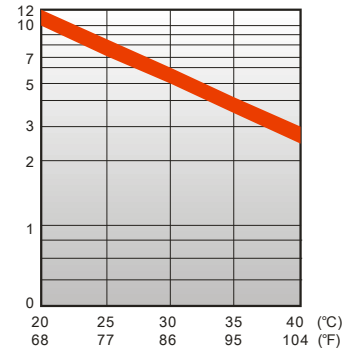
Effect of Temperature on Capacity 25°C(77°F)



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 |
|-------------|-----|-------|-------|-------|-------|-------|-------|
| 10 | min | 301 | 322 | 335 | 353 | 381 | 409 |
| 15 | min | 238 | 260 | 275 | 299 | 312 | 323 |
| 20 | min | 196 | 213 | 234 | 240 | 247 | 251 |
| 30 | min | 156 | 161 | 166 | 172 | 180 | 192 |
| 60 | min | 107 | 119 | 122 | 123 | 124 | 124 |
| 120 | min | 69.8 | 71.3 | 72.5 | 73.3 | 74.3 | 75.0 |
| 180 | min | 43.3 | 46.7 | 48.3 | 48.7 | 49.7 | 50.8 |
| 300 | min | 29.0 | 31.2 | 32.7 | 33.0 | 33.5 | 33.8 |
| 600 | min | 16.0 | 16.6 | 17.1 | 17.3 | 17.4 | 17.7 |
| 1200 | min | 7.66 | 7.74 | 7.98 | 8.14 | 8.28 | 8.49 |

- 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 |
|-------------|-----|-------|-------|-------|-------|-------|-------|
| 10 | min | 143 | 160 | 177 | 196 | 212 | 223 |
| 15 | min | 123 | 138 | 150 | 159 | 166 | 175 |
| 20 | min | 110 | 127 | 130 | 136 | 143 | 150 |
| 30 | min | 84.0 | 84.6 | 85.0 | 86.9 | 88.5 | 90.6 |
| 60 | min | 54.0 | 59.7 | 60.2 | 61.1 | 61.7 | 62.5 |
| 120 | min | 36.2 | 36.9 | 37.5 | 37.9 | 38.6 | 39.0 |
| 180 | min | 25.4 | 26.1 | 26.4 | 27.1 | 27.5 | 27.8 |
| 300 | min | 15.4 | 15.8 | 16.1 | 16.7 | 17.4 | 18.2 |
| 600 | min | 8.45 | 8.50 | 8.55 | 8.65 | 8.76 | 8.88 |
| 1200 | min | 4.23 | 4.25 | 4.30 | 4.34 | 4.40 | 4.46 |

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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