

### ⚡ Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

|              |       |    |        |       |
|--------------|-------|----|--------|-------|
| 20 hour rate | (5A)  | to | 10.50V | 100Ah |
| 10 hour rate | (10A) | to | 10.80V | 100Ah |
| 5 hour rate  | (17A) | to | 10.20V | 85Ah  |
| 1 hour rate  | (60A) | to | 9.60V  | 60Ah  |

#### Weight

Approx. 31.3kg(68.9Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 4 mΩ

#### Maximum Discharge Current for

5 seconds: 1200A

#### Charging Methods at 25°C(77°F)

|                            |               |
|----------------------------|---------------|
| Cycle use:                 |               |
| Charging Voltage           | 14.4 to 15.0V |
| Coefficient -5.0mV/°C/cell |               |
| Maximum Charging Current : | 30A           |
| 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

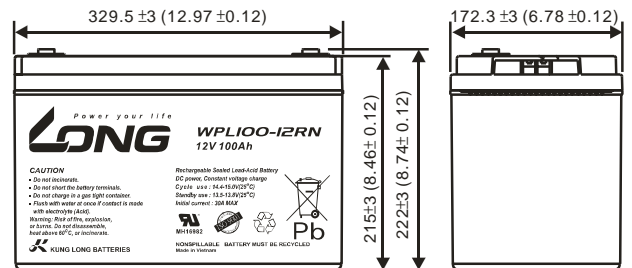
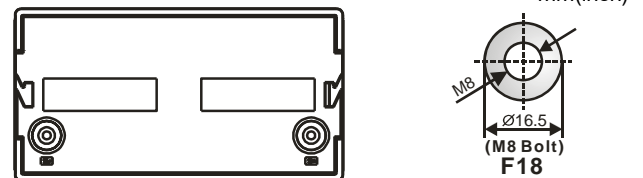


### ⚡ Dimensions

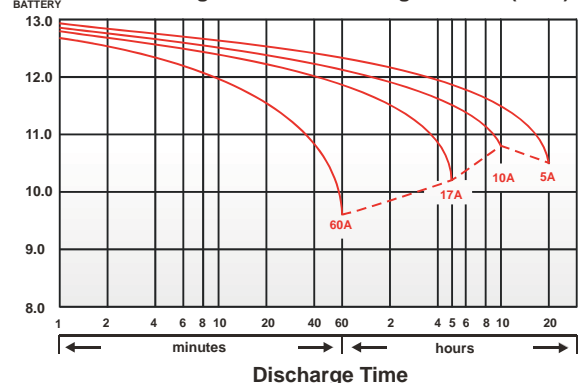
|                     |                      |
|---------------------|----------------------|
| Length (L)          | 329.5±3 (12.97±0.12) |
| Width (W)           | 172.3±3 (6.78±0.12)  |
| Height (H)          | 215±3 (8.46±0.12)    |
| Overall Height (HT) | 222±3 (8.74±0.12)    |

#### Description of torque value of hard ware for the terminals:

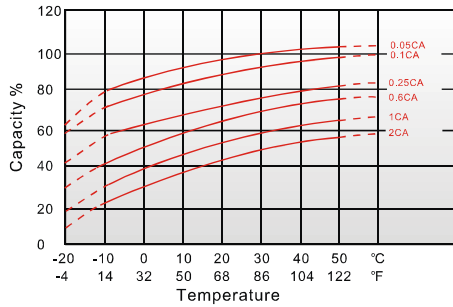
|                                |                       |
|--------------------------------|-----------------------|
| Recommended torque value       | M8:12 N-m (122kgf-cm) |
| Maximum allowable torque value | M8:20 N-m (204kgf-cm) |



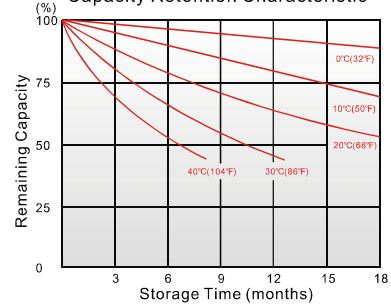
(V) Discharge Time VS. Discharge Current (25°C)



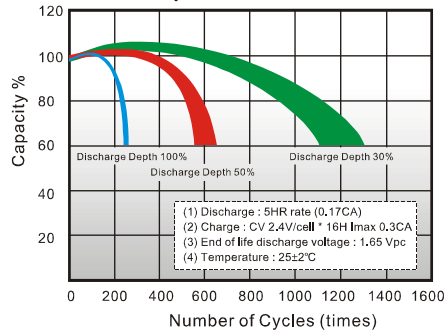
Effect of Temperature on Capacity 25°C(77°F)



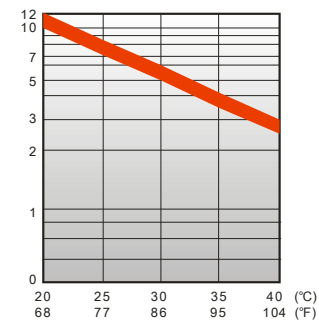
Capacity Retention Characteristic



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 | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|
| Time        |     |       |       |       |       |       |       |
| 10          | min | 303   | 358   | 412   | 436   | 461   | 476   |
| 15          | min | 295   | 327   | 340   | 358   | 378   | 385   |
| 20          | min | 246   | 268   | 295   | 308   | 320   | 329   |
| 30          | min | 210   | 220   | 233   | 236   | 239   | 241   |
| 45          | min | 147   | 159   | 167   | 175   | 179   | 182   |
| 60          | min | 128   | 134   | 140   | 143   | 145   | 147   |
| 90          | min | 88.9  | 92.1  | 94.6  | 96.7  | 98.7  | 100   |
| 180         | min | 50.4  | 53.7  | 55.8  | 57.6  | 58.6  | 59.2  |
| 300         | min | 33.8  | 35.5  | 37.3  | 37.7  | 38.0  | 38.3  |
| 480         | min | 20.2  | 22.5  | 23.2  | 23.7  | 24.2  | 24.4  |
| 600         | min | 19.2  | 19.9  | 20.2  | 20.5  | 20.8  | 21.0  |
| 1200        | min | 10.5  | 10.8  | 11.1  | 11.2  | 11.4  | 11.6  |

#### - 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        |     |       |       |       |       |       |       |
| 10          | min | 170   | 205   | 235   | 256   | 274   | 287   |
| 15          | min | 163   | 181   | 191   | 200   | 206   | 212   |
| 20          | min | 134   | 147   | 160   | 166   | 174   | 183   |
| 30          | min | 106   | 114   | 118   | 123   | 127   | 132   |
| 45          | min | 82.7  | 86.1  | 89.1  | 91.1  | 93.1  | 95.0  |
| 60          | min | 61.0  | 65.3  | 69.5  | 71.7  | 72.8  | 73.9  |
| 90          | min | 44.2  | 47.3  | 49.4  | 50.2  | 50.8  | 51.3  |
| 180         | min | 28.3  | 29.1  | 29.8  | 30.4  | 30.7  | 30.9  |
| 300         | min | 17.1  | 17.9  | 18.7  | 18.9  | 19.1  | 19.3  |
| 480         | min | 11.0  | 11.9  | 12.3  | 12.5  | 12.8  | 12.9  |
| 600         | min | 9.81  | 10.1  | 10.3  | 10.5  | 10.7  | 10.8  |
| 1200        | min | 5.13  | 5.28  | 5.42  | 5.45  | 5.48  | 5.50  |

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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