

### Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

|              |        |    |         |         |
|--------------|--------|----|---------|---------|
| 10 hour rate | (15A   | to | 10.80V) | 150Ah   |
| 5 hour rate  | (25.5A | to | 10.20V) | 127.5Ah |
| 1 hour rate  | (90A   | to | 9.60V)  | 90Ah    |

#### Weight

Approx. 45.5kg(100Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 4.8 mΩ

#### Maximum Discharge Current for

5 seconds: 1500A

#### Charging Methods at 25°C(77°F)

|                            |               |
|----------------------------|---------------|
| Maximum Charging Current : | 45A           |
| 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

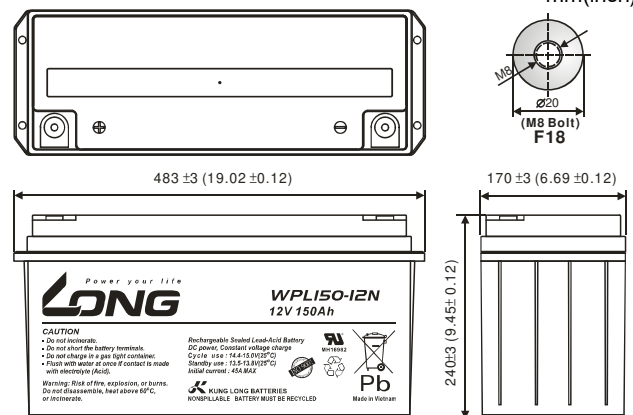


### Dimensions

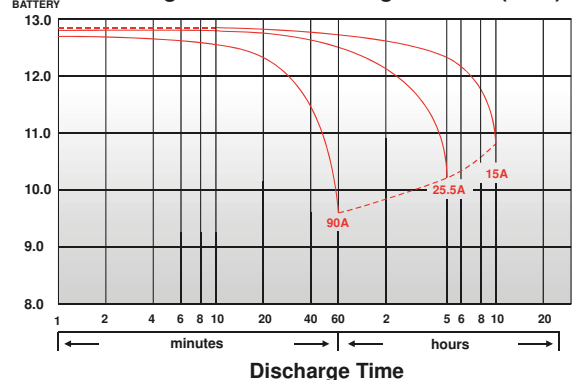
|                     |                    |
|---------------------|--------------------|
| Length (L)          | 483±3 (19.02±0.12) |
| Width (W)           | 170±3 (6.69±0.12)  |
| Height (H)          | 240±3 (9.45±0.12)  |
| Overall Height (HT) | 240±3 (9.45±0.12)  |

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

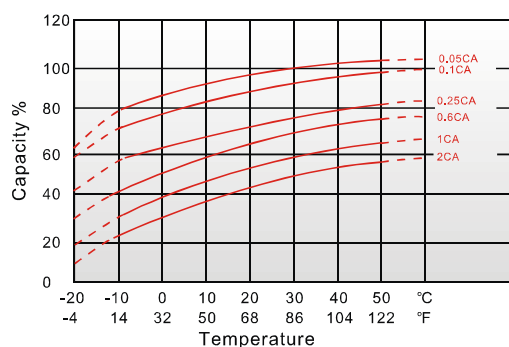
|                                |                       |
|--------------------------------|-----------------------|
| Recommended torque value       | M8:12 N-m (122kgf-cm) |
| Maximum allowable torque value | M8:20 N-m (204kgf-cm) |



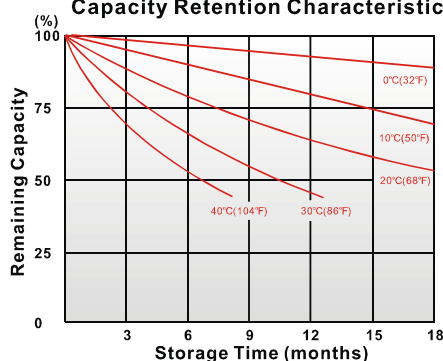
#### (v) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



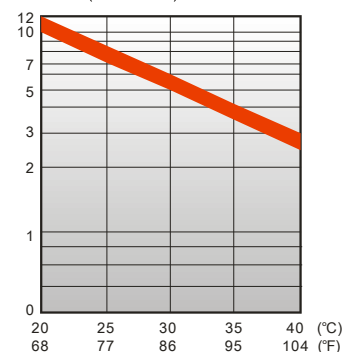
Effect of Temperature on Capacity 25°C(77°F)



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 | 1.67V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| Time        |     |       |       |       |       |       |       |       |
| 10          | min | 405   | 461   | 517   | 544   | 573   | 587   | 598   |
| 15          | min | 359   | 401   | 440   | 459   | 478   | 489   | 500   |
| 20          | min | 322   | 354   | 383   | 397   | 411   | 419   | 431   |
| 30          | min | 257   | 276   | 293   | 301   | 309   | 313   | 324   |
| 60          | min | 161   | 167   | 170   | 172   | 174   | 176   | 183   |
| 90          | min | 132   | 139   | 141   | 142   | 143   | 143   | 145   |
| 120         | min | 106   | 112   | 113   | 114   | 115   | 115   | 117   |
| 180         | min | 75.0  | 78.5  | 79.7  | 80.5  | 80.9  | 81.1  | 81.9  |
| 240         | min | 58.7  | 61.3  | 62.2  | 62.8  | 63.1  | 63.3  | 63.9  |
| 300         | min | 48.3  | 50.4  | 51.1  | 51.6  | 51.9  | 52.0  | 52.5  |
| 480         | min | 32.9  | 34.1  | 34.6  | 35.0  | 35.2  | 35.3  | 35.5  |
| 600         | min | 29.3  | 30.3  | 30.7  | 31.0  | 31.2  | 31.2  | 31.5  |
| 1200        | min | 14.8  | 15.3  | 15.6  | 15.9  | 16.1  | 16.1  | 16.2  |

### - 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 |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| Time        |     |       |       |       |       |       |       |       |
| 10          | min | 221   | 252   | 282   | 297   | 312   | 320   | 326   |
| 15          | min | 196   | 219   | 240   | 250   | 261   | 267   | 273   |
| 20          | min | 168   | 185   | 200   | 207   | 215   | 219   | 225   |
| 30          | min | 133   | 143   | 152   | 156   | 160   | 162   | 168   |
| 60          | min | 80.9  | 84.0  | 85.9  | 86.9  | 87.9  | 88.6  | 92.3  |
| 90          | min | 66.2  | 69.9  | 70.9  | 71.6  | 71.9  | 72.1  | 73.1  |
| 120         | min | 53.3  | 56.1  | 56.9  | 57.5  | 57.7  | 57.9  | 58.6  |
| 180         | min | 37.5  | 39.3  | 39.9  | 40.3  | 40.4  | 40.6  | 41.0  |
| 240         | min | 29.2  | 30.5  | 31.0  | 31.3  | 31.4  | 31.5  | 31.8  |
| 300         | min | 24.1  | 25.1  | 25.5  | 25.7  | 25.9  | 25.9  | 26.1  |
| 480         | min | 16.3  | 17.0  | 17.2  | 17.4  | 17.5  | 17.5  | 17.6  |
| 600         | min | 14.5  | 15.0  | 15.1  | 15.2  | 15.2  | 15.3  | 15.3  |
| 1200        | min | 7.30  | 7.52  | 7.56  | 7.60  | 7.64  | 7.68  | 7.70  |

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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