

⚡ Specifications

Nominal Voltage(V)

12V

Nominal Power

15 mins rate: 135W/cell to 1.67V/cell

Nominal Capacity

| | | |
|--------------|-------------------|--------|
| 20 hour rate | (1.8A to 10.50V) | 36Ah |
| 8 hour rate | (3.87A to 10.50V) | 31Ah |
| 5 hour rate | (6.12A to 10.20V) | 30.6Ah |

Weight

Approx. 11.0kg(24.2Lbs.)

Internal Resistance (at 1KHz)

Approx. 8 mΩ

Maximum Discharge Current for

5 seconds: 540A

Short Circuit Current (A)

1800 A

Charging Methods at 25°C(77°F)

| | |
|----------------------------|----------------|
| Maximum Charging Current : | 10.8A |
| Boost Charging Voltage | 14.4 to 15.0V |
| Boost Charge Time | 8-9Hr |
| 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 | 96% |
| 6 month | 94% |

Case Material

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

Battery Construction

| Component | Positive Plate | Negative plate | Safety valve | Terminal | Separator | Electrolyte |
|--------------|----------------|----------------|--------------|----------|------------|---------------|
| Raw material | Lead dioxide | Lead | Rubber | Lead | Fiberglass | Sulfuric acid |



⚡ Dimensions

Length (L)

197+2-1 (7.76+0.08-0.04)

Width (W)

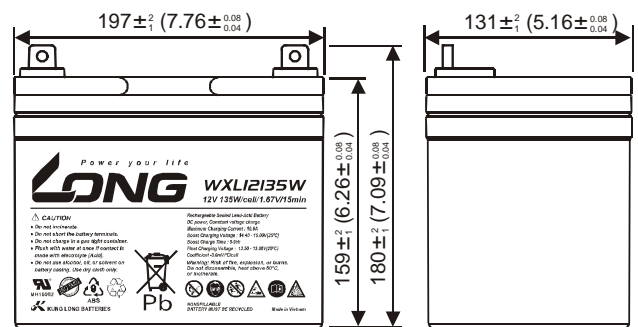
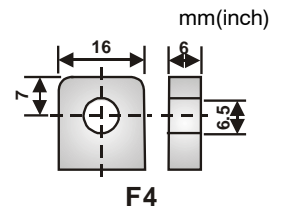
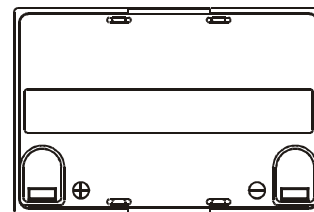
131+2-1 (5.16+0.08-0.04)

Height (H)

159+2-1 (6.26+0.08-0.04)

Overall Height (HT)

180+2-1 (7.09+0.08-0.04)



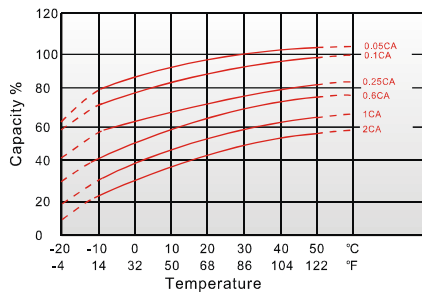
Terminal

F4

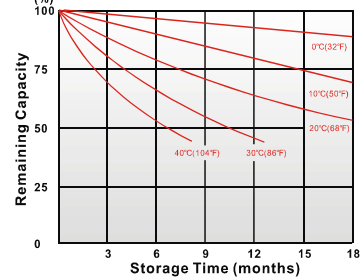
Design Life

Expected Trickle Design Life: 6-9 years at 20°C according to Eurobat.

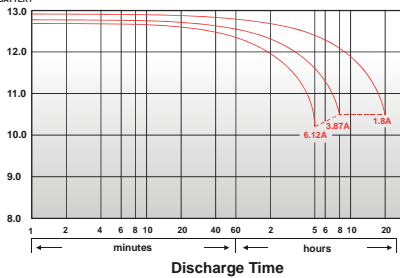
Effect of Temperature on Capacity 25°C(77°F)



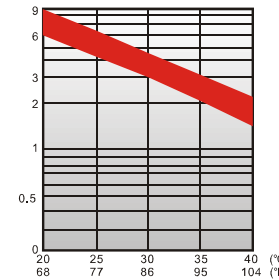
Capacity Retention Characteristic



Discharge Time VS. Discharge Current (25°C)



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 | 1.63V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 2 | min | 271 | 304 | 321 | 336 | 348 | 354 | 356 | 358 |
| 4 | min | 212 | 243 | 260 | 274 | 280 | 285 | 289 | 292 |
| 5 | min | 209 | 226 | 245 | 258 | 265 | 270 | 274 | 277 |
| 6 | min | 205 | 225 | 240 | 247 | 252 | 256 | 259 | 262 |
| 8 | min | 168 | 180 | 190 | 198 | 212 | 216 | 219 | 222 |
| 10 | min | 144 | 157 | 165 | 168 | 171 | 174 | 177 | 179 |
| 15 | min | 125 | 128 | 131 | 133 | 135 | 137 | 138 | 139 |
| 20 | min | 103 | 107 | 109 | 111 | 113 | 115 | 116 | 117 |
| 30 | min | 76.5 | 78.3 | 79.3 | 79.9 | 80.3 | 80.7 | 81.1 | 81.4 |
| 45 | min | 57.2 | 57.9 | 58.5 | 58.8 | 59.1 | 59.2 | 59.3 | 59.3 |
| 60 | min | 43.7 | 45.0 | 45.8 | 46.3 | 46.6 | 46.7 | 46.8 | 46.9 |
| 90 | min | 33.0 | 33.7 | 34.1 | 34.5 | 34.8 | 35.0 | 35.2 | 35.3 |
| 120 | min | 22.4 | 23.6 | 24.3 | 24.7 | 24.9 | 25.1 | 25.3 | 25.3 |
| 180 | min | 15.1 | 15.7 | 16.2 | 16.6 | 16.9 | 17.1 | 17.2 | 17.3 |
| 240 | min | 11.2 | 11.7 | 11.9 | 12.1 | 12.3 | 12.4 | 12.5 | 12.5 |
| 300 | min | 9.53 | 9.89 | 10.0 | 10.1 | 10.2 | 10.2 | 10.3 | 10.4 |
| 600 | min | 4.83 | 5.00 | 5.13 | 5.22 | 5.28 | 5.31 | 5.34 | 5.37 |
| 1200 | min | 3.22 | 3.32 | 3.42 | 3.44 | 3.48 | 3.50 | 3.52 | 3.54 |

- 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 | 1.63V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 2 | min | 157 | 171 | 183 | 193 | 203 | 208 | 212 | 217 |
| 4 | min | 130 | 146 | 158 | 166 | 169 | 170 | 171 | 172 |
| 5 | min | 115 | 128 | 134 | 136 | 139 | 140 | 141 | 142 |
| 6 | min | 98.2 | 104 | 107 | 109 | 111 | 112 | 113 | 114 |
| 8 | min | 90.2 | 96.1 | 99.2 | 101 | 103 | 105 | 107 | 109 |
| 10 | min | 83.2 | 88.6 | 91.6 | 93.7 | 95.7 | 97.3 | 98.3 | 98.8 |
| 15 | min | 64.2 | 67.2 | 71.0 | 73.8 | 75.0 | 75.3 | 75.6 | 75.8 |
| 20 | min | 53.2 | 56.0 | 58.3 | 59.0 | 59.5 | 59.7 | 59.9 | 60.0 |
| 30 | min | 35.9 | 38.1 | 39.9 | 40.3 | 40.5 | 40.8 | 41.0 | 41.1 |
| 45 | min | 26.8 | 29.3 | 31.0 | 31.3 | 31.8 | 32.1 | 32.3 | 32.4 |
| 60 | min | 20.0 | 21.0 | 21.6 | 21.9 | 22.1 | 22.3 | 22.4 | 22.5 |
| 90 | min | 16.3 | 17.0 | 17.5 | 17.7 | 17.9 | 18.1 | 18.2 | 18.2 |
| 120 | min | 11.8 | 12.4 | 12.8 | 13.0 | 13.1 | 13.2 | 13.3 | 13.3 |
| 180 | min | 8.38 | 8.73 | 9.00 | 9.22 | 9.38 | 9.50 | 9.58 | 9.62 |
| 240 | min | 6.78 | 7.07 | 7.21 | 7.30 | 7.36 | 7.38 | 7.39 | 7.40 |
| 300 | min | 5.69 | 5.93 | 6.02 | 6.06 | 6.10 | 6.12 | 6.14 | 6.16 |
| 600 | min | 3.22 | 3.33 | 3.42 | 3.48 | 3.52 | 3.54 | 3.55 | 3.55 |
| 1200 | min | 1.71 | 1.76 | 1.80 | 1.82 | 1.84 | 1.84 | 1.85 | 1.85 |

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%)

040621-1F