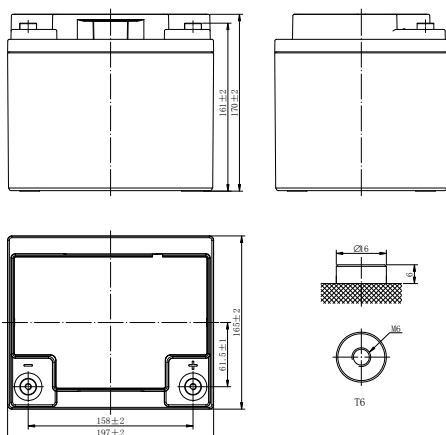


# LPL SERIES-LONG LIFE STANDBY

## LPL12-45 (12V45Ah)



### CHARACTERISTICS

| Item                          | Specifications                                                                                                                                                                                            |                     |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Rated Voltage                 | 12V                                                                                                                                                                                                       |                     |
| Nominal Capacity (25°C)       | C <sub>10</sub> , 1.80V/cell                                                                                                                                                                              | 45Ah                |
| Dimension                     | Length                                                                                                                                                                                                    | 197mm (7.76inches)  |
|                               | Width                                                                                                                                                                                                     | 165mm (6.50inches)  |
|                               | Container Height                                                                                                                                                                                          | 170mm (6.69inches)  |
|                               | Total Height                                                                                                                                                                                              | 170mm (6.69inches)  |
| Approx Weight                 | 14.2kg (31.3lbs)                                                                                                                                                                                          |                     |
| Terminal                      | T6(M6)                                                                                                                                                                                                    |                     |
| Container Material            | ABS (UL94 HB or V-0 optional)                                                                                                                                                                             |                     |
| Short-circuit current         | 1125A                                                                                                                                                                                                     |                     |
| Internal Resistance (25°C)    | Approx 9 mΩ (Fully charged)                                                                                                                                                                               |                     |
| Operating Temp. Range         | Discharge                                                                                                                                                                                                 | -15~50°C (5~122°F)  |
|                               | Charge                                                                                                                                                                                                    | -20~40°C (-4~104°F) |
|                               | Storage                                                                                                                                                                                                   | -15~40°C (5~104°F)  |
| Nominal Operating Temp. Range | 25±3°C (77±5°F)                                                                                                                                                                                           |                     |
| Max.Charging Current (25°C)   | 0.3C                                                                                                                                                                                                      |                     |
| Charge voltage (25°C)         | Float Charge                                                                                                                                                                                              | Equalization Charge |
|                               | 2.25-2.30V/cell                                                                                                                                                                                           | 2.35-2.40V/cell     |
| Temp. Coefficient             | -3mV/cell/°C                                                                                                                                                                                              | -5mV/cell/°C        |
|                               | 40°C (104°F)                                                                                                                                                                                              | 103%                |
| Effect of temp. to Capacity   | 25°C (77°F)                                                                                                                                                                                               | 100%                |
|                               | 0°C (32°F)                                                                                                                                                                                                | 86%                 |
| Self Discharge                | ≤3% per month at 25°C (77°F).<br>LPL series batteries may be stored up to 6 months at 25°C (77°F) and then a freshening charge is required.<br>For higher temperatures the time interval will be shorter. |                     |

### DISCHARGE TABLE

| Constant Current Discharge (Amperes) at 25°C (77°F)  |       |       |       |       |       |      |      |      |      |      |      |      |      |      |
|------------------------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| F.V/Time                                             | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
| 1.85V/cell                                           | 63.3  | 54.9  | 43.2  | 40.2  | 32.6  | 24.9 | 15.2 | 11.1 | 8.73 | 7.57 | 5.96 | 5.13 | 4.25 | 2.26 |
| 1.80V/cell                                           | 71.9  | 62.2  | 48.8  | 43.7  | 34.8  | 25.8 | 15.7 | 12.1 | 9.32 | 7.97 | 6.27 | 5.40 | 4.50 | 2.34 |
| 1.75V/cell                                           | 78.0  | 67.4  | 52.7  | 44.6  | 35.9  | 27.1 | 16.5 | 12.3 | 9.49 | 8.11 | 6.34 | 5.43 | 4.52 | 2.36 |
| 1.70V/cell                                           | 83.1  | 71.6  | 55.9  | 45.5  | 36.6  | 27.6 | 16.8 | 12.5 | 9.66 | 8.24 | 6.44 | 5.51 | 4.54 | 2.39 |
| 1.67V/cell                                           | 85.8  | 73.6  | 57.4  | 46.2  | 37.1  | 28.0 | 17.1 | 12.7 | 9.81 | 8.41 | 6.55 | 5.59 | 4.60 | 2.42 |
| 1.60V/cell                                           | 88.7  | 75.9  | 58.9  | 46.9  | 37.7  | 28.4 | 17.3 | 12.8 | 9.92 | 8.53 | 6.64 | 5.66 | 4.66 | 2.44 |
| Constant Power Discharge (Watts/cell) at 25°C (77°F) |       |       |       |       |       |      |      |      |      |      |      |      |      |      |
| F.V/Time                                             | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
| 1.85V/cell                                           | 119.2 | 104.0 | 82.1  | 76.8  | 62.5  | 48.1 | 29.5 | 21.7 | 17.1 | 14.9 | 11.8 | 10.2 | 8.46 | 4.49 |
| 1.80V/cell                                           | 133.3 | 116.3 | 91.9  | 82.9  | 66.3  | 49.6 | 30.3 | 23.5 | 18.2 | 15.6 | 12.4 | 10.7 | 8.85 | 4.65 |
| 1.75V/cell                                           | 142.3 | 124.1 | 98.1  | 84.0  | 67.9  | 51.8 | 31.8 | 23.9 | 18.5 | 15.8 | 12.4 | 10.7 | 8.92 | 4.69 |
| 1.70V/cell                                           | 149.6 | 130.5 | 103.1 | 84.9  | 68.8  | 52.6 | 32.3 | 24.2 | 18.7 | 16.1 | 12.5 | 10.6 | 9.01 | 4.73 |
| 1.67V/cell                                           | 152.0 | 132.6 | 104.8 | 85.5  | 69.3  | 53.0 | 32.6 | 24.4 | 19.0 | 16.3 | 12.8 | 11.0 | 9.11 | 4.79 |
| 1.60V/cell                                           | 154.1 | 134.5 | 106.2 | 85.9  | 69.7  | 53.4 | 32.9 | 24.5 | 19.1 | 16.5 | 12.9 | 11.1 | 9.20 | 4.84 |

# LPL SERIES-LONG LIFE STANDBY

LPL12-45 (12V45Ah)



## APPLICATIONS

- UPS and EPS
- Emergency light
- Railway signal and aircraft signal system
- Marine and power stations
- Alarm and security system
- Electronic apparatus and equipment
- Communication power supply, DC power supply

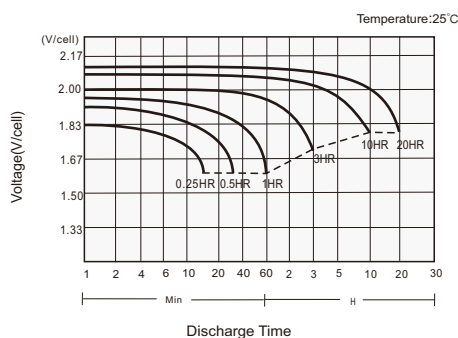
## GENERAL FEATURES

- 12 years design life (25°C)
- Lead calcium alloy, sealed design, no watering required
- Puncture resistant micro-porous glass mat separators extend life
- Unique technology optimizes power capacity, cell consistency, and long-term reliability
- Designed for a wide range of applications

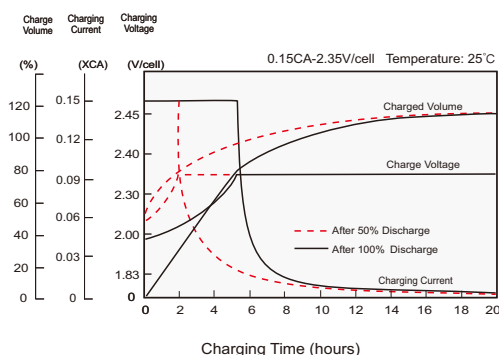
## STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Approved
- Manufactured in Leoch® IATF 16949, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

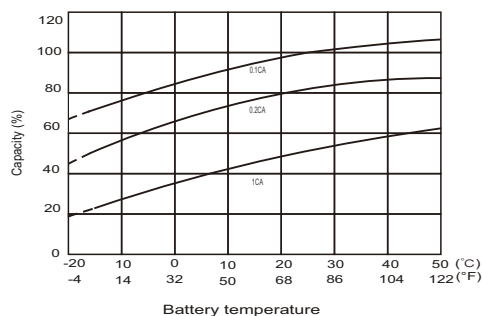
### Discharge Characteristics



### Charging Characteristics



### Effects of Temperature on Capacity



### Self Discharge Characteristics

