# LOP SERIES-Outside Plant Purpose

## LOP12-52FR (12V, 55AH)

## Specification

| | |
|---|---|
| Nominal Voltage | 12V |
| Nominal Capacity(8 HR) | 52.0AH |
| Dimensions | Length 229±3mm (8.98 inches)<br>Width 138±2mm (5.39 inches)<br>Container Height 210±3mm (8.27 inches)<br>Total Height (with Terminal) 216±3mm (8.50 inches) |
| Approx Weight | Approx 17.8 Kg (39.25lbs) |
| Terminal | T6 (Term insert with M6 bolt) or optional T9 (Flag Term) |
| Container Material | ABS Flame Retardant Jars to UL94 V-0 Standard |
| Rated Capacity | 58.8 AH/2.94A (20hr ,1.80V/cell,25°C/77°F)<br>54.3 AH/5.43A (10hr,1.80V/cell,25°C/77°F)<br>52.0 AH/6.50A (8hr,1.75V/cell,25°C/77°F)<br>42.9 AH/14.3A (3hr,1.75V/cell,25°C/77°F)<br>34.1 AH/34.1A (1hr,1.60V/cell,25°C/77°F) |
| Max. Discharge Current | 660A (5s) |
| Internal Resistance | Approx 7.5m Ω |
| Operating Temp.Range | Discharge : -15~50°C (5~122°F)<br>Charge : 0~40°C (32~104°F )<br>Storage : -15~40°C (5~104°F) |
| Nominal Operating Temp. Range | 25±3°C (77±5°F ) |
| Standby (Float) Use | No limit on Initial Charging Current.<br>13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C |
| Cycle Use | Initial Charging Current less than16.5A.<br>14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C |
| Capacity affected by Temperature | 40°C (104°F) 103%<br>25°C (77°F) 100%<br>0°C (32°F) 86% |
| Self Discharge | Leoch LOP series batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. |

NEBS Level III Certified

## Applications

- *Telecommunication Power supply, DC power supply*
- *Power system communication, military communication, etc.*
- *Network communication including: data transmission, television signal transmission, etc.*
- *Uninterruptable Power System (Long duration UPS for Telecom & Utility)*

## 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 | 64.4 | 54.1 | 48.0 | 39.8 | 30.7 | 26.3 | 17.0 | 12.8 | 10.5 | 8.82 | 7.73 | 6.13 | 5.27 | 2.81 |
| 1.80V/cell | 73.6 | 60.8 | 53.1 | 43.3 | 33.1 | 27.8 | 18.3 | 13.8 | 11.1 | 9.35 | 8.19 | 6.43 | 5.43 | 2.94 |
| 1.75V/cell | 83.6 | 68.5 | 58.7 | 47.0 | 36.2 | 30.3 | 19.0 | 14.3 | 11.5 | 9.57 | 8.44 | 6.50 | 5.59 | 3.02 |
| 1.70V/cell | 94.5 | 76.0 | 64.8 | 51.3 | 38.9 | 32.0 | 20.0 | 15.1 | 12.0 | 10.1 | 8.85 | 6.91 | 5.80 | 3.05 |
| 1.65V/cell | 101.4 | 81.4 | 68.9 | 54.1 | 41.2 | 33.1 | 20.8 | 15.7 | 12.5 | 10.4 | 9.16 | 7.18 | 5.97 | 3.14 |
| 1.60V/cell | 111.6 | 89.1 | 74.8 | 57.8 | 42.8 | 34.1 | 21.3 | 16.1 | 12.8 | 10.7 | 9.35 | 7.30 | 6.08 | 3.19 |

## Constant Power Discharge (Watts/cell) at 25 °C (77°F )

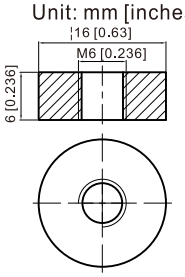
| F.V/Time | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.85V/cell | 120.2 | 102.1 | 91.5 | 76.7 | 59.7 | 51.2 | 33.4 | 25.2 | 20.7 | 17.5 | 15.3 | 12.25 | 10.58 | 5.63 |
| 1.80V/cell | 135.9 | 113.1 | 99.7 | 82.0 | 63.9 | 53.8 | 35.7 | 26.9 | 21.9 | 18.4 | 16.2 | 12.84 | 10.87 | 5.82 |
| 1.75V/cell | 151.9 | 125.9 | 109.1 | 88.4 | 69.0 | 58.4 | 37.0 | 27.9 | 22.6 | 18.8 | 16.7 | 13.25 | 11.17 | 5.94 |
| 1.70V/cell | 167.7 | 137.8 | 119.5 | 96.0 | 74.1 | 61.6 | 38.8 | 29.3 | 23.5 | 19.9 | 17.4 | 13.72 | 11.55 | 6.08 |
| 1.65V/cell | 178.5 | 146.4 | 126.2 | 100.5 | 77.7 | 63.2 | 40.0 | 30.4 | 24.4 | 20.4 | 18.0 | 14.23 | 11.86 | 6.26 |
| 1.60V/cell | 191.9 | 157.7 | 135.6 | 106.5 | 80.3 | 64.8 | 40.9 | 31.0 | 24.8 | 20.8 | 18.3 | 14.41 | 12.06 | 6.37 |

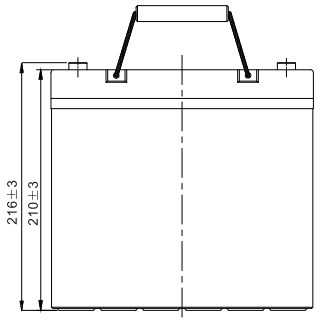
Specifications subject to change without notice.

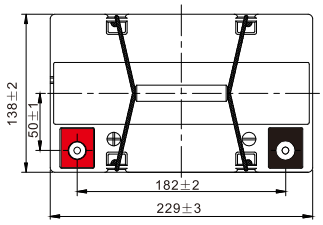
## Dimensions

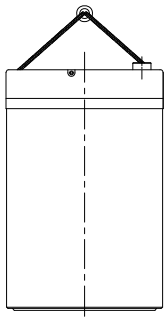
### T6 Terminal

Unit: mm [inches]

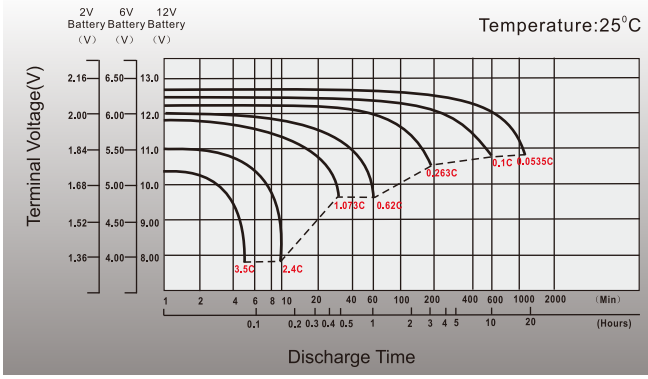


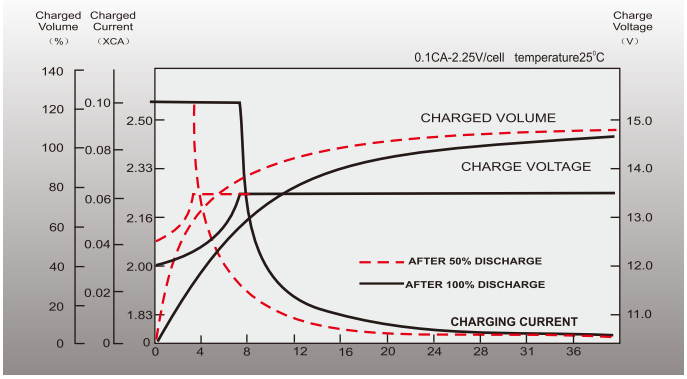



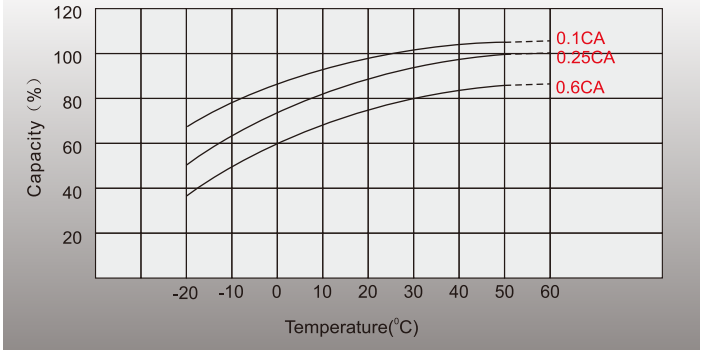
## Discharge Characteristics



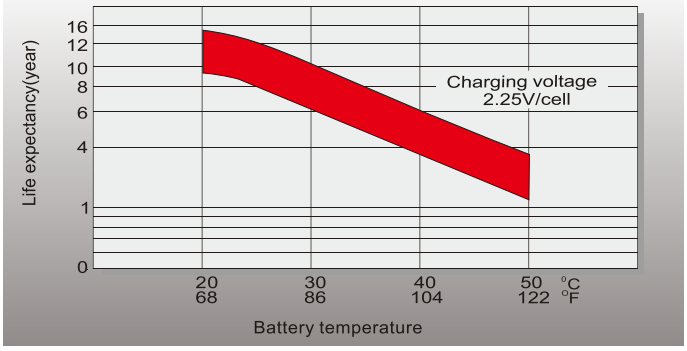

## Float Charging Characteristics

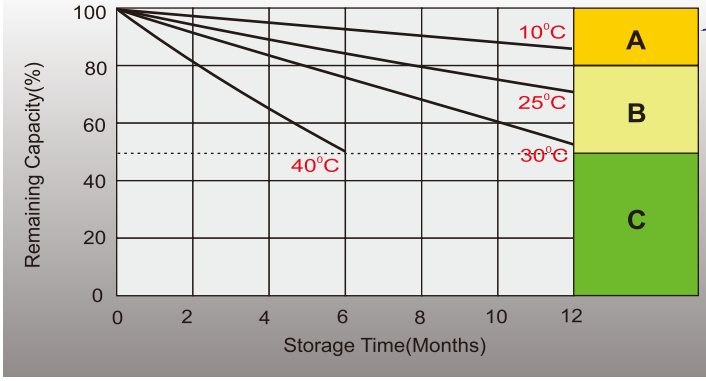



## Temperature Effects in Relation to Battery Capacity




## Effect of Temperature on Long Term Float Life




## Self Discharge Characteristics

**A** No supplementary charge required
(Carry out supplementary charge before use if 100% capacity is required.)

**B** Supplementary charge required before use.Optional charging way as below:
1.Charged for above 3 days at limted current 0.25CA and constant volatge 2.25V/cell.
2.Charged for above 20hours at limted current 0.25CA and constant volatge 2.45V/cell.
3.Charged for 8~10hours at limted current 0.05CA.

**C** Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this is reached.

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