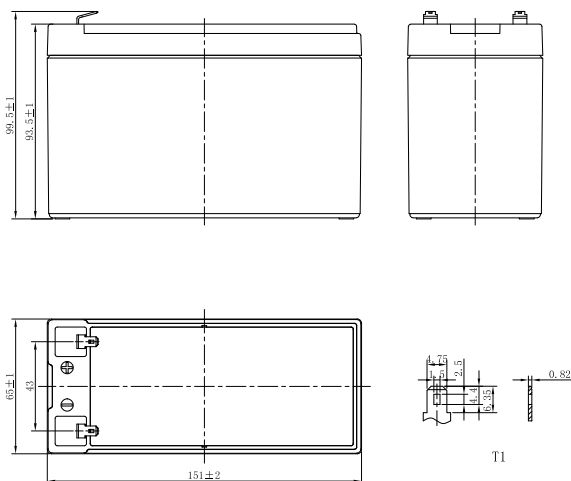


# LP SERIES-GENERAL PURPOSE

LP12-7.0 (12V7.0Ah)



## CHARACTERISTICS

| Item                          | Specifications                                                                                                                                                                                           |                     |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Rated Voltage                 | 12V                                                                                                                                                                                                      |                     |
| Nominal Capacity (25°C)       | C <sub>20</sub> 1.75V/cell                                                                                                                                                                               | 7.0Ah               |
| Dimension                     | Length                                                                                                                                                                                                   | 151mm (5.94inches)  |
|                               | Width                                                                                                                                                                                                    | 65mm (2.56inches)   |
|                               | Container Height                                                                                                                                                                                         | 93.5mm (3.68inches) |
|                               | Total Height                                                                                                                                                                                             | 99.5mm (3.92inches) |
| Approx Weight                 | 1.97kg (4.34lbs)                                                                                                                                                                                         |                     |
| Terminal                      | T1/T2                                                                                                                                                                                                    |                     |
| Container Material            | ABS (UL94 HB or V-0 optional)                                                                                                                                                                            |                     |
| Short-circuit current         | 196A                                                                                                                                                                                                     |                     |
| Internal Resistance (25°C)    | Approx 33 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)         | Standby Use                                                                                                                                                                                              | Cycle Use           |
|                               | 2.25-2.30V/cell                                                                                                                                                                                          | 2.35-2.45V/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>LP 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                                             | 5min | 10min | 15min | 20min | 30min | 45min | 1h   | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h    | 8h    | 10h   | 20h   |
| 1.85V/cell                                           | 17.0 | 12.5  | 9.90  | 8.10  | 6.12  | 4.64  | 3.91 | 2.90 | 2.38 | 1.72 | 1.36 | 1.16 | 0.990 | 0.780 | 0.637 | 0.343 |
| 1.80V/cell                                           | 18.5 | 13.2  | 10.3  | 8.35  | 6.28  | 4.73  | 3.99 | 2.95 | 2.41 | 1.74 | 1.38 | 1.18 | 1.01  | 0.790 | 0.644 | 0.347 |
| 1.75V/cell                                           | 19.9 | 13.8  | 10.7  | 8.60  | 6.43  | 4.83  | 4.06 | 3.00 | 2.45 | 1.77 | 1.40 | 1.19 | 1.02  | 0.800 | 0.653 | 0.350 |
| 1.70V/cell                                           | 21.4 | 14.4  | 11.1  | 8.86  | 6.57  | 4.92  | 4.13 | 3.05 | 2.49 | 1.79 | 1.42 | 1.21 | 1.03  | 0.809 | 0.660 | 0.354 |
| 1.67V/cell                                           | 22.3 | 14.8  | 11.3  | 9.01  | 6.67  | 4.98  | 4.17 | 3.08 | 2.51 | 1.81 | 1.43 | 1.22 | 1.04  | 0.816 | 0.665 | 0.356 |
| 1.60V/cell                                           | 24.3 | 15.7  | 11.8  | 9.40  | 6.87  | 5.11  | 4.27 | 3.14 | 2.56 | 1.84 | 1.46 | 1.24 | 1.06  | 0.829 | 0.675 | 0.361 |
| Constant Power Discharge (Watts/cell) at 25°C (77°F) |      |       |       |       |       |       |      |      |      |      |      |      |       |       |       |       |
| F.V/Time                                             | 5min | 10min | 15min | 20min | 30min | 45min | 1h   | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h    | 8h    | 10h   | 20h   |
| 1.85V/cell                                           | 32.3 | 23.9  | 19.1  | 15.6  | 11.8  | 9.01  | 7.61 | 5.67 | 4.65 | 3.37 | 2.69 | 2.29 | 1.96  | 1.55  | 1.27  | 0.686 |
| 1.80V/cell                                           | 34.8 | 25.0  | 19.7  | 16.0  | 12.1  | 9.15  | 7.73 | 5.74 | 4.71 | 3.42 | 2.72 | 2.32 | 1.99  | 1.57  | 1.28  | 0.693 |
| 1.75V/cell                                           | 37.4 | 26.1  | 20.3  | 16.4  | 12.3  | 9.30  | 7.84 | 5.82 | 4.77 | 3.46 | 2.76 | 2.35 | 2.01  | 1.58  | 1.29  | 0.700 |
| 1.70V/cell                                           | 39.9 | 27.2  | 20.9  | 16.8  | 12.5  | 9.40  | 7.95 | 5.90 | 4.84 | 3.50 | 2.79 | 2.37 | 2.03  | 1.60  | 1.31  | 0.707 |
| 1.67V/cell                                           | 41.4 | 27.8  | 21.3  | 17.1  | 12.7  | 9.50  | 8.02 | 5.95 | 4.87 | 3.53 | 2.81 | 2.39 | 2.05  | 1.61  | 1.32  | 0.712 |
| 1.60V/cell                                           | 44.7 | 29.2  | 22.1  | 17.6  | 13.0  | 9.70  | 8.17 | 6.05 | 4.95 | 3.59 | 2.85 | 2.43 | 2.08  | 1.64  | 1.34  | 0.722 |

# LP SERIES-GENERAL PURPOSE

LP12-7.0 (12V7.0Ah)



## APPLICATIONS

- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system

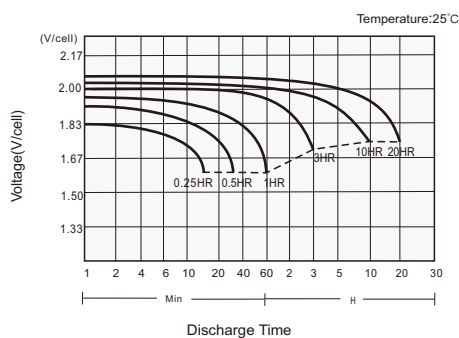
## GENERAL FEATURES

- 5 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

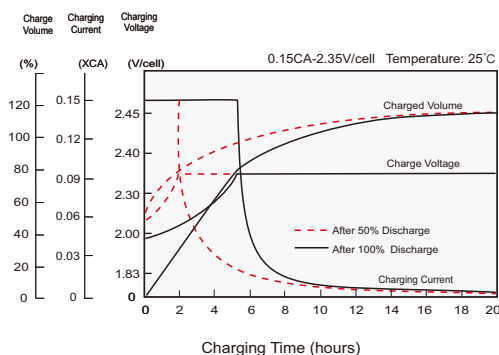
## STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Approved

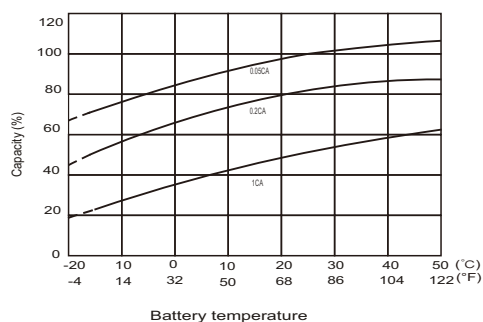
### Discharge Characteristics



### Charging Characteristics



### Effects of Temperature on Capacity



### Self Discharge Characteristics

