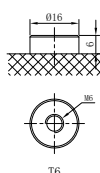
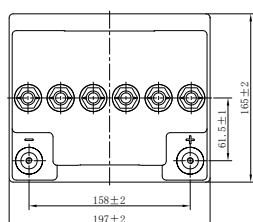
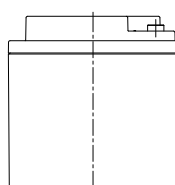
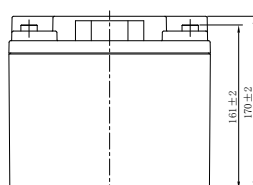


# LPG SERIES-GEL BATTERY

LPG12-38 (12V38Ah)



## CHARACTERISTICS

| Item                          | Specifications                                                                                                                                                                                              |                     |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Rated Voltage                 | 12V                                                                                                                                                                                                         |                     |
| Nominal Capacity (25°C)       | C <sub>20</sub> 1.80V/cell                                                                                                                                                                                  | 38Ah                |
| Dimension                     | Length                                                                                                                                                                                                      | 197mm (7.76inches)  |
|                               | Width                                                                                                                                                                                                       | 165mm (6.50inches)  |
|                               | Container Height                                                                                                                                                                                            | 170mm (6.69inches)  |
|                               | Total Height                                                                                                                                                                                                | 170mm (6.69inches)  |
| Approx Weight                 | 12.8kg (28.2lbs)                                                                                                                                                                                            |                     |
| Terminal                      | T6(M6)                                                                                                                                                                                                      |                     |
| Container Material            | ABS (UL94 HB or V-0 optional)                                                                                                                                                                               |                     |
| Short-circuit current         | 874A                                                                                                                                                                                                        |                     |
| Internal Resistance (25°C)    | Approx 13.3 mΩ (Fully charged)                                                                                                                                                                              |                     |
| Operating Temp. Range         | Discharge                                                                                                                                                                                                   | -20~60°C (-4~140°F) |
|                               | Charge                                                                                                                                                                                                      | -20~40°C (-4~104°F) |
|                               | Storage                                                                                                                                                                                                     | -20~50°C (-4~122°F) |
| Nominal Operating Temp. Range | 25±3°C (77±5°F)                                                                                                                                                                                             |                     |
| Max.Charging Current (25°C)   | 0.25C                                                                                                                                                                                                       |                     |
| Charge voltage (25°C)         | Standby Use                                                                                                                                                                                                 | Cycle Use           |
|                               | 2.23-2.27V/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                | ≤2.5% per month at 25°C (77°F).<br>LPG series batteries may be stored up to 9 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   | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
| 1.85V/cell                                           | 46.1  | 39.9  | 31.4  | 28.4  | 20.8  | 16.5 | 12.8 | 10.2 | 8.08 | 6.56 | 5.73 | 4.99 | 4.05 | 3.43 | 1.77 |
| 1.80V/cell                                           | 52.3  | 45.3  | 35.5  | 30.9  | 22.0  | 18.2 | 13.5 | 11.2 | 8.87 | 7.13 | 6.01 | 5.28 | 4.22 | 3.50 | 1.90 |
| 1.75V/cell                                           | 56.7  | 49.0  | 38.3  | 31.6  | 22.8  | 20.4 | 14.8 | 12.0 | 9.22 | 7.35 | 6.20 | 5.45 | 4.29 | 3.61 | 1.91 |
| 1.70V/cell                                           | 59.3  | 51.5  | 40.4  | 31.8  | 23.2  | 21.1 | 15.2 | 12.3 | 9.38 | 7.36 | 6.27 | 5.46 | 4.33 | 3.61 | 1.93 |
| 1.67V/cell                                           | 62.4  | 53.6  | 41.8  | 32.7  | 23.6  | 21.5 | 15.5 | 12.5 | 9.51 | 7.48 | 6.37 | 5.54 | 4.36 | 3.64 | 1.95 |
| 1.60V/cell                                           | 64.5  | 55.2  | 42.8  | 33.1  | 23.9  | 22.2 | 15.9 | 12.8 | 9.63 | 7.61 | 6.51 | 5.63 | 4.40 | 3.68 | 1.98 |
| Constant Power Discharge (Watts/cell) at 25°C (77°F) |       |       |       |       |       |      |      |      |      |      |      |      |      |      |      |
| F.V/Time                                             | 10min | 15min | 20min | 30min | 45min | 1h   | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
| 1.85V/cell                                           | 86.7  | 75.6  | 59.7  | 54.3  | 39.9  | 32.0 | 24.8 | 19.9 | 15.8 | 12.9 | 11.3 | 9.85 | 8.00 | 6.79 | 3.52 |
| 1.80V/cell                                           | 96.9  | 84.6  | 66.8  | 58.6  | 42.0  | 35.1 | 26.2 | 21.8 | 17.3 | 14.0 | 11.8 | 10.4 | 8.32 | 6.92 | 3.77 |
| 1.75V/cell                                           | 103.5 | 90.3  | 71.3  | 59.4  | 43.3  | 39.1 | 28.5 | 23.2 | 17.9 | 14.3 | 12.1 | 10.7 | 8.44 | 7.11 | 3.79 |
| 1.70V/cell                                           | 106.3 | 93.5  | 74.1  | 59.2  | 43.7  | 40.0 | 29.1 | 23.6 | 18.2 | 14.3 | 12.2 | 10.7 | 8.51 | 7.10 | 3.84 |
| 1.67V/cell                                           | 110.5 | 96.4  | 76.2  | 60.5  | 44.3  | 40.7 | 29.6 | 24.0 | 18.4 | 14.5 | 12.4 | 10.8 | 8.56 | 7.16 | 3.87 |
| 1.60V/cell                                           | 112.1 | 97.8  | 77.3  | 60.7  | 44.5  | 41.6 | 30.1 | 24.3 | 18.5 | 14.7 | 12.6 | 10.9 | 8.60 | 7.21 | 3.92 |

# LPG SERIES-GEL BATTERY

LPG12-38 (12V38Ah)



## APPLICATIONS

- Telecommunications
- Solar system
- Wind power system
- Engine starting
- Wheelchair, Floor cleaning machines, Golf trolley, Boats

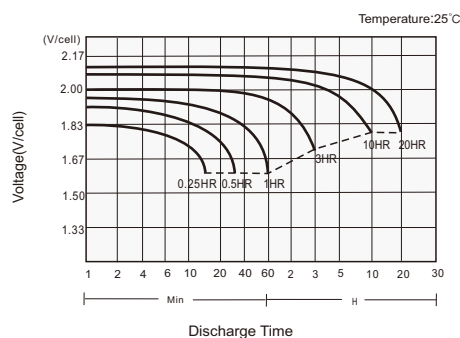
## GENERAL FEATURES

- 12 years design life (25°C)
- Gelled electrolyte for superior thermal management, long float life
- Efficient gas recombination decreases gassing/water and extends battery life
- Robust design - resilient in harsh conditions
- Proof against deep discharge - greater long-term energy delivery and cycle life

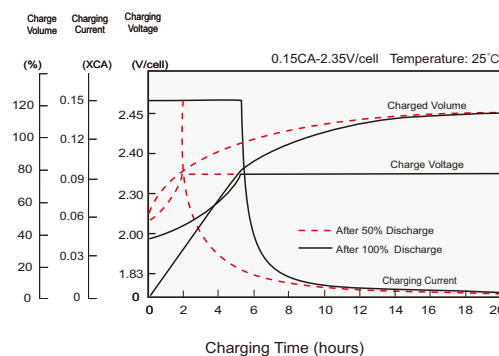
## STANDARDS

- IEC60896 Certified
- Classified as "Long Life" according to Eurobat
- UL, CE Approved
- Manufactured in Leoch@IATF16949, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

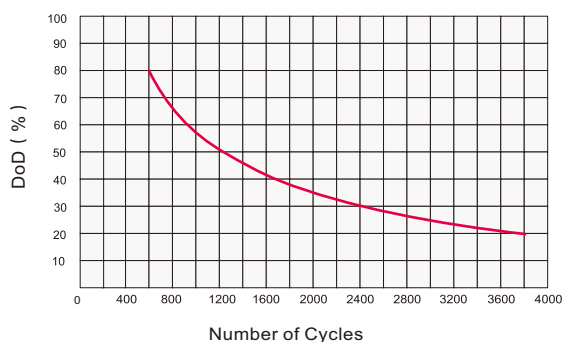
### Discharge Characteristics



### Charging Characteristics



### Cycle Life in Relation to DoD



### Self Discharge Characteristics

