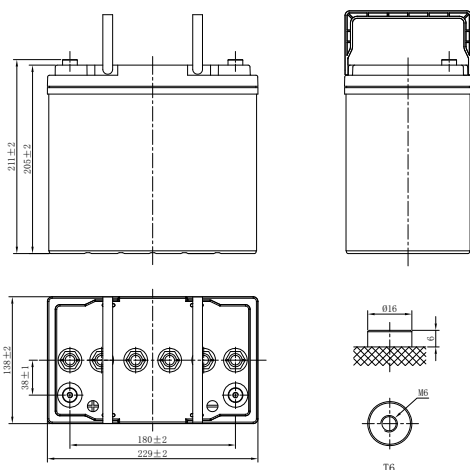


# LPG SERIES-GEL BATTERY

LPG12-50 (12V50Ah)



## CHARACTERISTICS

| Item                          | Specifications                                                                                                                                                                                              |                     |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Rated Voltage                 | 12V                                                                                                                                                                                                         |                     |
| Nominal Capacity (25°C)       | C <sub>20</sub> 1.80V/cell                                                                                                                                                                                  | 50Ah                |
| Dimension                     | Length                                                                                                                                                                                                      | 229mm (9.02inches)  |
|                               | Width                                                                                                                                                                                                       | 138mm (5.43inches)  |
|                               | Container Height                                                                                                                                                                                            | 205mm (8.07inches)  |
|                               | Total Height                                                                                                                                                                                                | 211mm (8.31inches)  |
| Approx Weight                 | 16.1kg (35.5lbs)                                                                                                                                                                                            |                     |
| Terminal                      | T6(M6)                                                                                                                                                                                                      |                     |
| Container Material            | ABS (UL94 HB or V-0 optional)                                                                                                                                                                               |                     |
| Short-circuit current         | 1150A                                                                                                                                                                                                       |                     |
| Internal Resistance (25°C)    | Approx 12.1 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                                           | 65.8  | 57.0  | 44.9  | 40.6  | 29.7  | 23.5 | 18.2 | 14.5 | 11.5 | 9.39 | 8.15 | 7.14 | 5.79 | 4.90 | 2.62 |
| 1.80V/cell                                           | 74.7  | 64.6  | 50.7  | 44.2  | 31.4  | 26.0 | 19.3 | 16.0 | 12.7 | 10.2 | 8.59 | 7.54 | 6.03 | 5.00 | 2.75 |
| 1.75V/cell                                           | 81.0  | 70.0  | 54.8  | 45.1  | 32.6  | 29.2 | 21.2 | 17.2 | 13.2 | 10.3 | 8.85 | 7.79 | 6.13 | 5.08 | 2.83 |
| 1.70V/cell                                           | 84.7  | 73.5  | 57.6  | 45.4  | 33.1  | 30.1 | 21.8 | 17.5 | 13.4 | 10.5 | 8.96 | 7.81 | 6.18 | 5.15 | 2.87 |
| 1.67V/cell                                           | 89.1  | 76.5  | 59.6  | 46.7  | 33.7  | 30.7 | 22.2 | 17.9 | 13.6 | 10.7 | 9.10 | 7.92 | 6.23 | 5.20 | 2.89 |
| 1.60V/cell                                           | 92.1  | 78.9  | 61.2  | 47.3  | 34.2  | 31.6 | 22.7 | 18.2 | 13.8 | 10.9 | 9.30 | 8.04 | 6.29 | 5.25 | 2.93 |
| 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                                           | 123.8 | 108.0 | 85.3  | 77.6  | 57.1  | 45.7 | 35.5 | 28.4 | 22.6 | 18.5 | 16.1 | 14.1 | 11.5 | 9.73 | 5.03 |
| 1.80V/cell                                           | 138.5 | 120.8 | 95.5  | 83.8  | 60.1  | 50.2 | 37.5 | 31.1 | 24.7 | 20.0 | 16.9 | 14.8 | 11.9 | 9.89 | 5.26 |
| 1.75V/cell                                           | 147.8 | 129.0 | 101.9 | 84.3  | 61.9  | 55.9 | 40.8 | 33.2 | 25.6 | 20.3 | 17.3 | 15.1 | 12.0 | 10.0 | 5.41 |
| 1.70V/cell                                           | 151.9 | 133.7 | 105.9 | 84.6  | 62.3  | 57.2 | 41.5 | 33.6 | 25.9 | 20.4 | 17.5 | 15.3 | 12.1 | 10.1 | 5.49 |
| 1.67V/cell                                           | 157.9 | 137.8 | 108.8 | 86.4  | 63.2  | 58.1 | 42.2 | 34.2 | 26.2 | 20.7 | 17.7 | 15.5 | 12.2 | 10.2 | 5.53 |
| 1.60V/cell                                           | 160.1 | 139.7 | 110.4 | 86.8  | 63.5  | 59.4 | 42.9 | 34.7 | 26.4 | 21.0 | 18.0 | 15.6 | 12.3 | 10.3 | 5.59 |

# LPG SERIES-GEL BATTERY

LPG12-50 (12V50Ah)



## APPLICATIONS

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

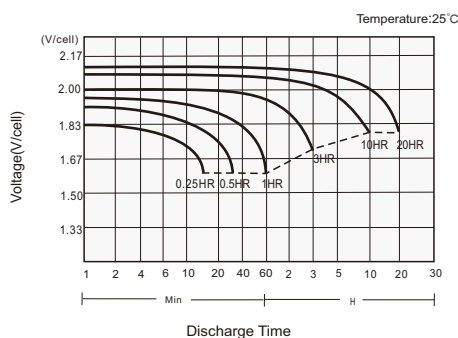
## GENERAL FEATURES

- 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

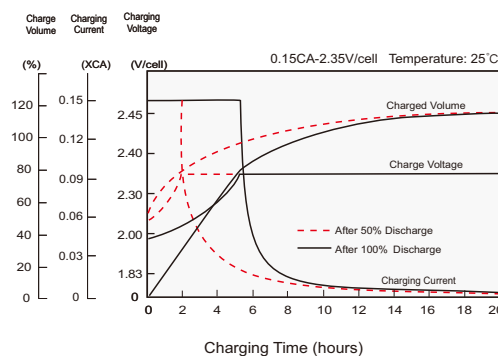
## STANDARDS

- 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

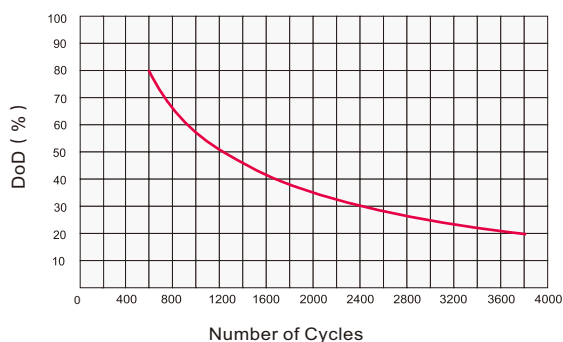
### Discharge Characteristics



### Charging Characteristics



### Cycle Life in Relation to DoD



### Self Discharge Characteristics

