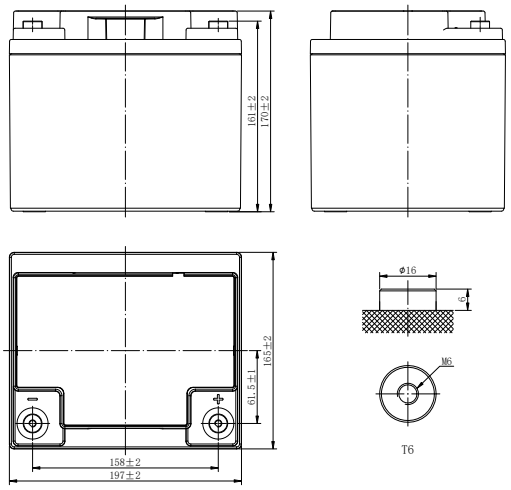
# LPGS SERIES-HYBRID GEL BATTERY

LPGS12-38 (12V38Ah)

LEOCH BATTERY




## CHARACTERISTICS

| Item | | Specifications |
|---|---|---|
| Rated Voltage | | 12V |
| Nominal Capacity (25˚C) | $C_{10}$,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 | | 950A |
| Internal Resistance (25˚C) | | Approx 10 mΩ (Fully charged) |
| Operating Temp. Range | Discharge | -20~55˚C (-4~131°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 |
| | 2.25-2.30V/cell | 2.35-2.40V/cell |
| Temp. Coeffcient | -3mV/cell/˚C | -5mV/cell/˚C |
| Effect of temp. to Capacity | 40˚C (104°F) | 103% |
| | 25˚C (77°F) | 100% |
| | 0˚C (32°F) | 86% |
| Self Discharge | ≤3% per month at 25°C (77°F).<br>LPGS series batteries can 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 | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
| 1.85V/cell | 49.2 | 41.3 | 31.8 | 23.7 | 20.0 | 12.0 | 9.07 | 7.22 | 6.04 | 5.24 | 4.26 | 3.56 | 1.91 |
| 1.80V/cell | 57.2 | 47.6 | 35.9 | 26.5 | 22.2 | 13.1 | 9.81 | 7.79 | 6.50 | 5.62 | 4.56 | 3.80 | 2.01 |
| 1.75V/cell | 60.5 | 50.0 | 37.5 | 27.6 | 23.0 | 13.5 | 10.1 | 7.98 | 6.65 | 5.74 | 4.64 | 3.86 | 2.04 |
| 1.70V/cell | 63.9 | 52.6 | 39.2 | 28.6 | 23.8 | 13.9 | 10.4 | 8.18 | 6.80 | 5.86 | 4.73 | 3.92 | 2.07 |
| 1.67V/cell | 65.9 | 54.1 | 40.2 | 29.3 | 24.3 | 14.1 | 10.5 | 8.29 | 6.89 | 5.93 | 4.77 | 3.95 | 2.08 |
| 1.60V/cell | 70.7 | 57.6 | 42.4 | 30.8 | 25.5 | 14.7 | 10.9 | 8.57 | 7.10 | 6.10 | 4.89 | 4.04 | 2.12 |

| Constant Power Discharge (Watts/cell) at 25°C (77°F) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F.V/Time | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
| 1.85V/cell | 94.5 | 79.6 | 61.4 | 46.0 | 38.9 | 23.5 | 17.8 | 14.2 | 11.9 | 10.3 | 8.42 | 7.05 | 3.80 |
| 1.80V/cell | 108.7 | 90.9 | 68.8 | 51.0 | 42.8 | 25.4 | 19.2 | 15.2 | 12.8 | 11.1 | 8.99 | 7.51 | 4.00 |
| 1.75V/cell | 113.8 | 94.4 | 71.3 | 52.7 | 44.0 | 26.1 | 19.6 | 15.6 | 13.0 | 11.3 | 9.14 | 7.61 | 4.05 |
| 1.70V/cell | 118.9 | 98.4 | 73.8 | 54.2 | 45.4 | 26.8 | 20.1 | 15.9 | 13.3 | 11.5 | 9.28 | 7.72 | 4.10 |
| 1.67V/cell | 123.0 | 100.5 | 75.2 | 55.2 | 46.1 | 27.1 | 20.3 | 16.1 | 13.4 | 11.6 | 9.36 | 7.78 | 4.12 |
| 1.60V/cell | 128.3 | 105.4 | 78.5 | 57.4 | 47.9 | 28.0 | 20.9 | 16.5 | 13.8 | 11.9 | 9.56 | 7.92 | 4.19 |

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## APPLICATIONS

- UPS
- Wind,solar and renewable energy
- Street lamp,CATV,oil and gas
- Poor grid reliability back-up applications
- Hybrid telecom remote base stations
- All extreme environment off-grid applications

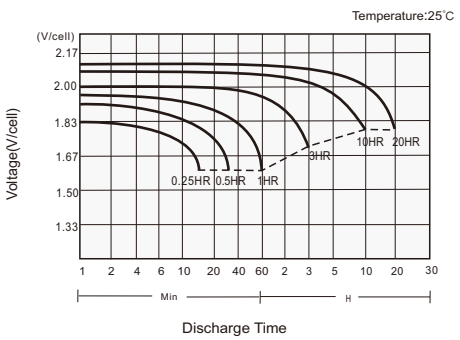
## GENERAL FEATURES

- 12 years design life (25℃)
- Proven AGM-GEL technology
- Excellent deep discharge recovery and cyclability
- Very low maintenance: no water addition
- Low self-discharge rate

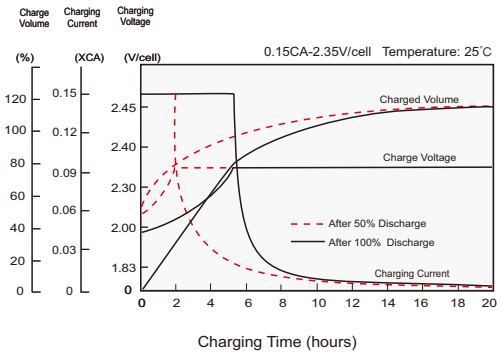
## STANDARDS

- IEC60896 Certified
- Classified as"Long Life" according to Eurobat
- UL,CE Approved
- Manufactured in Leoch®IATF 16949, ISO 45001,ISO 9001 and ISO 14001 certified production facilities

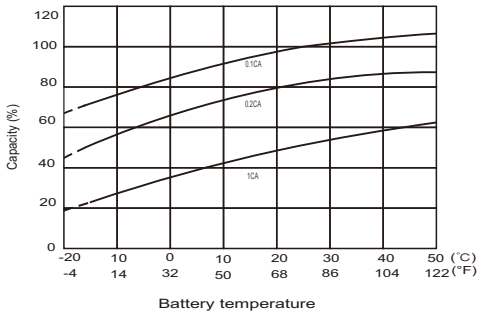
## Discharge Characteristics



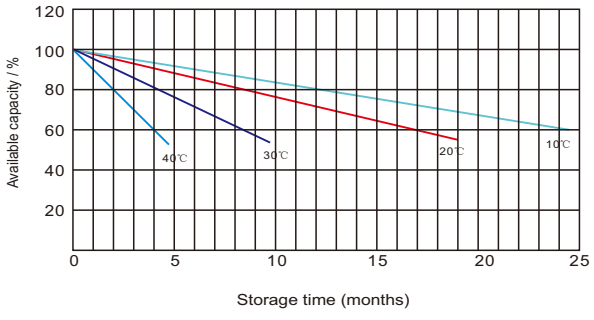

## Charging Characteristics




## Effects of Temperature on Capacity




## Self Discharge Characteristics





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