

# LPGS SERIES-TRUE Hybrid GEL Battery

## LPGS12-80(12V80AH)

### Specification

|                                  |                                                                                                                                                                                 |                               |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Nominal Voltage                  | 12V                                                                                                                                                                             |                               |
| Nominal Capacity(10HR)           | 80.0AH                                                                                                                                                                          |                               |
| Dimensions                       | Length                                                                                                                                                                          | 260±3mm (10.2 inches)         |
|                                  | Width                                                                                                                                                                           | 168±2mm (6.61 inches)         |
|                                  | Container Height                                                                                                                                                                | 208±3mm (8.19 inches)         |
|                                  | Total Height (with Terminal)                                                                                                                                                    | 214±3mm (8.43 inches)         |
| Approx Weight                    | Approx 24.0 kg (52.9lbs)                                                                                                                                                        |                               |
| Terminal                         | T6                                                                                                                                                                              |                               |
| Container Material               | ABS                                                                                                                                                                             |                               |
| Rated Capacity                   | 82.4 AH/4.12A                                                                                                                                                                   | (20hr , 1.80V/cell,25°C/77°F) |
|                                  | 80.0 AH/8.0A                                                                                                                                                                    | (10hr, 1.80V/cell,25°C/77°F)  |
|                                  | 68.0 AH/13.6A                                                                                                                                                                   | (5hr, 1.75V/cell,25°C/77°F)   |
|                                  | 59.1 AH/19.7A                                                                                                                                                                   | (3hr, 1.75V/cell,25°C/77°F)   |
|                                  | 47.8 AH/47.8A                                                                                                                                                                   | (1hr, 1.60V/cell,25°C/77°F)   |
| Max. Discharge Current           | 960A (5s)                                                                                                                                                                       |                               |
| Internal Resistance              | Approx 6mΩ                                                                                                                                                                      |                               |
| Operating Temp.Range             | Discharge : -15~50°C (5~122°F)                                                                                                                                                  |                               |
|                                  | Charge : 0~40°C (32~104°F)                                                                                                                                                      |                               |
|                                  | Storage : -15~40°C (5~104°F)                                                                                                                                                    |                               |
| Nominal Operating Temp. Range    | 25±3°C (77±5°F )                                                                                                                                                                |                               |
| Cycle Use                        | Initial Charging Current less than 24.0A.Voltage                                                                                                                                |                               |
|                                  | 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C                                                                                                                             |                               |
| Standby Use                      | No limit on Initial Charging Current Voltage                                                                                                                                    |                               |
|                                  | 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C                                                                                                                             |                               |
| Capacity affected by Temperature | 40°C (104°F)                                                                                                                                                                    | 103%                          |
|                                  | 25°C ( 77°F)                                                                                                                                                                    | 100%                          |
|                                  | 0°C ( 32°F)                                                                                                                                                                     | 86%                           |
| Self Discharge                   | Leoch LPGS series batteries may be stored for up to 9 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. |                               |



### Applications

- ◆ Uninterruptable Power Supply (UPS)
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto control system
- ◆ Wind & solar & 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

### Constant Current Discharge (Amperes) at 25 °C (77°F)

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 129.0 | 101.4 | 86.2  | 72.1  | 57.0  | 43.3  | 35.8 | 22.8 | 17.7 | 14.5 | 12.4 | 10.8 | 8.76 | 7.42 | 4.00 |
| 1.80V/cell | 170.6 | 127.7 | 102.7 | 84.0  | 65.6  | 49.1  | 39.8 | 24.7 | 19.0 | 15.5 | 13.3 | 11.5 | 9.34 | 8.00 | 4.12 |
| 1.75V/cell | 196.3 | 143.2 | 114.5 | 92.2  | 69.9  | 52.0  | 42.1 | 25.9 | 19.7 | 16.0 | 13.6 | 11.9 | 9.50 | 8.08 | 4.16 |
| 1.70V/cell | 218.7 | 157.9 | 123.6 | 98.1  | 73.8  | 54.6  | 44.0 | 27.2 | 20.4 | 16.5 | 14.0 | 12.1 | 9.63 | 8.12 | 4.24 |
| 1.65V/cell | 238.9 | 168.8 | 130.2 | 103.2 | 77.2  | 56.2  | 45.6 | 28.0 | 21.1 | 17.0 | 14.3 | 12.4 | 9.78 | 8.20 | 4.28 |
| 1.60V/cell | 265.6 | 184.7 | 140.4 | 110.8 | 82.1  | 59.4  | 47.8 | 29.0 | 21.9 | 17.4 | 14.6 | 12.7 | 9.90 | 8.34 | 4.32 |

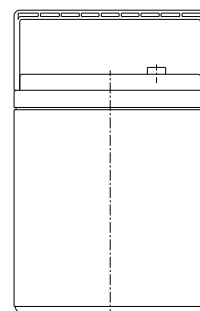
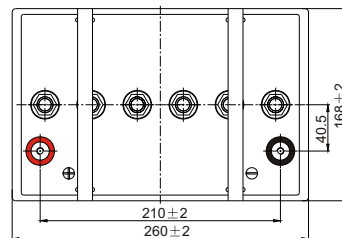
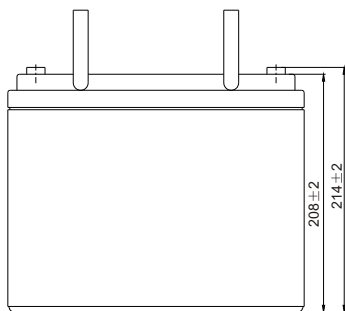
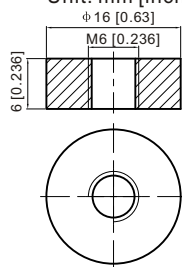
### Constant Power Discharge (Watts/cell) at 25 °C (77°F)

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 237.6 | 188.7 | 162.1 | 137.0 | 109.2 | 83.6  | 69.4 | 44.4 | 34.6 | 28.5 | 24.3 | 21.2 | 17.4 | 14.7 | 7.95 |
| 1.80V/cell | 311.2 | 235.1 | 190.6 | 157.4 | 124.1 | 94.1  | 76.8 | 47.9 | 37.0 | 30.2 | 26.0 | 22.7 | 18.5 | 15.9 | 8.18 |
| 1.75V/cell | 350.3 | 259.2 | 209.7 | 171.0 | 131.2 | 98.7  | 80.8 | 50.1 | 38.2 | 31.1 | 26.6 | 23.3 | 18.7 | 16.0 | 8.25 |
| 1.70V/cell | 378.8 | 278.9 | 223.0 | 180.2 | 137.4 | 103.1 | 84.0 | 52.4 | 39.4 | 32.0 | 27.2 | 23.7 | 19.0 | 16.1 | 8.40 |
| 1.65V/cell | 407.0 | 294.7 | 232.6 | 187.8 | 142.6 | 105.3 | 86.5 | 53.5 | 40.7 | 32.8 | 27.8 | 24.2 | 19.2 | 16.2 | 8.47 |
| 1.60V/cell | 442.1 | 315.2 | 246.6 | 199.4 | 150.3 | 110.7 | 90.1 | 55.2 | 41.9 | 33.5 | 28.2 | 24.6 | 19.4 | 16.4 | 8.54 |

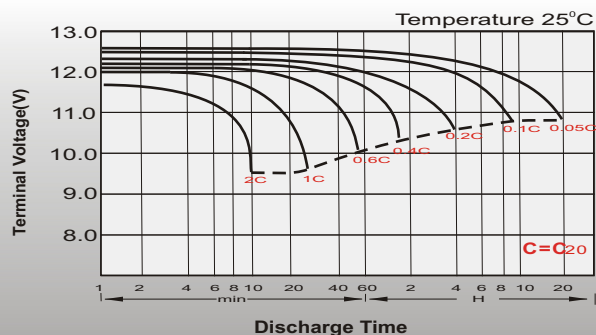
## Dimensions

### T6 Terminal

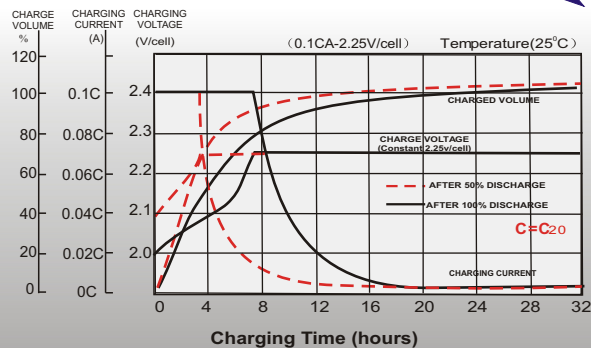
Unit: mm [inches]



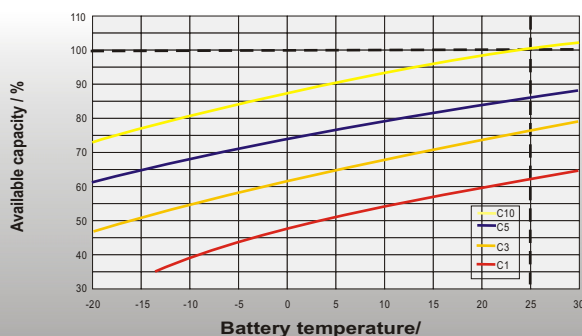
## Discharge Characteristics



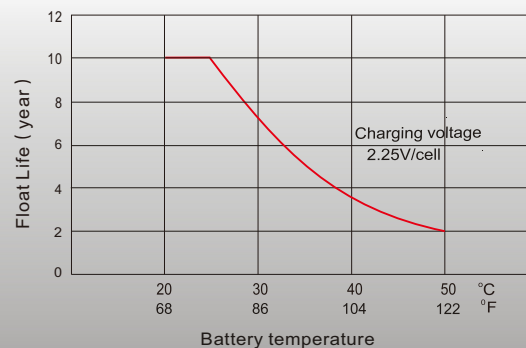
## Float Charging Characteristics



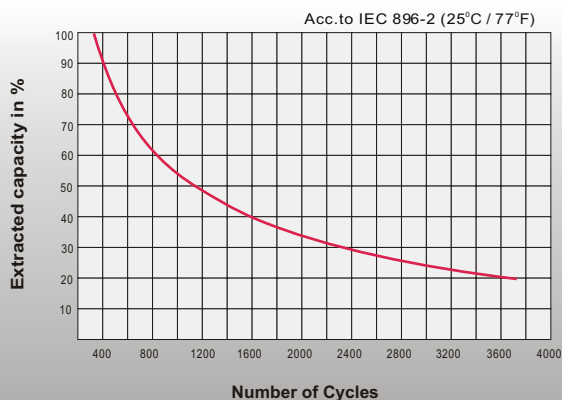
## Temperature Effects in Relation to Battery Capacity



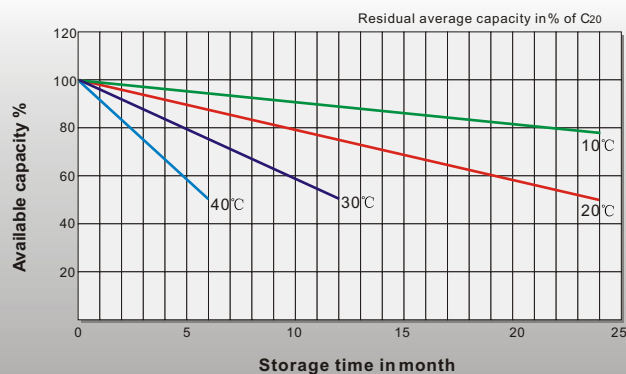
## Effect of Temperature on Long Term Float Life



## Cycle Life in Relation to Depth of Discharge



## General Relation of Capacity VS. Storage Time



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