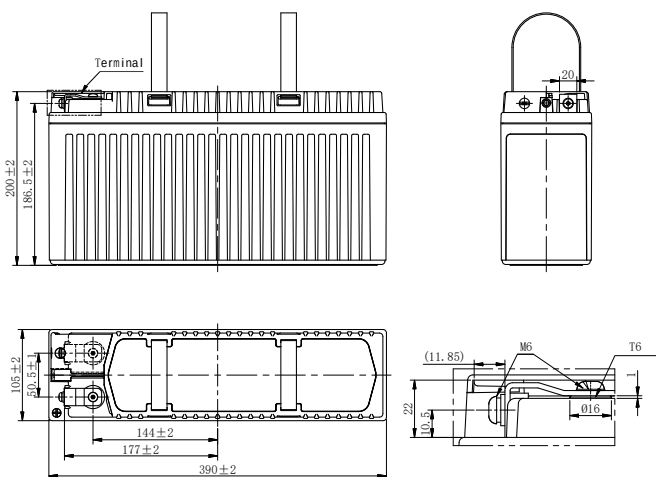
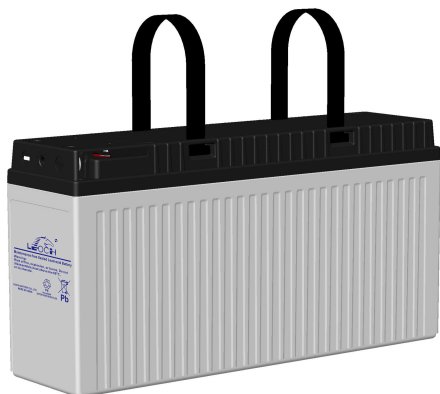


# LPFGS SERIES-FRONT TERMINAL HYBRID GEL

LPFG12-50HS (12V50Ah)



## CHARACTERISTICS

| Item                          | Specifications                                                                                                                                                                                              |                     |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Rated Voltage                 | 12V                                                                                                                                                                                                         |                     |
| Nominal Capacity (25°C)       | C <sub>10</sub> , 1.80V/cell                                                                                                                                                                                | 50Ah                |
| Dimension                     | Length                                                                                                                                                                                                      | 390mm (15.4inches)  |
|                               | Width                                                                                                                                                                                                       | 105mm (4.13inches)  |
|                               | Container Height                                                                                                                                                                                            | 200mm (7.87inches)  |
|                               | Total Height                                                                                                                                                                                                | 200mm (7.87inches)  |
| Approx Weight                 | 18.5kg (40.8lbs)                                                                                                                                                                                            |                     |
| Terminal                      | T6(M6)                                                                                                                                                                                                      |                     |
| Container Material            | ABS (UL94 HB or V-0 optional)                                                                                                                                                                               |                     |
| Short-circuit current         | 1150A                                                                                                                                                                                                       |                     |
| Internal Resistance (25°C)    | Approx 8 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. 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>LPFGS 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                                           | 64.7  | 54.4  | 41.8  | 31.2  | 26.4 | 15.8 | 11.9 | 9.50 | 7.95 | 6.90 | 5.60 | 4.68 | 2.51 |
| 1.80V/cell                                           | 75.3  | 62.6  | 47.3  | 34.9  | 29.2 | 17.2 | 12.9 | 10.1 | 8.55 | 7.40 | 6.00 | 5.00 | 2.64 |
| 1.75V/cell                                           | 79.5  | 65.7  | 49.4  | 36.3  | 30.3 | 17.7 | 13.1 | 10.4 | 8.75 | 7.55 | 6.09 | 5.04 | 2.65 |
| 1.70V/cell                                           | 84.1  | 69.2  | 51.5  | 37.6  | 31.4 | 18.3 | 13.3 | 10.5 | 8.83 | 7.65 | 6.13 | 5.09 | 2.68 |
| 1.67V/cell                                           | 86.7  | 71.2  | 52.8  | 38.5  | 32.0 | 18.5 | 13.4 | 10.6 | 8.91 | 7.74 | 6.19 | 5.12 | 2.70 |
| 1.60V/cell                                           | 93.0  | 75.7  | 55.8  | 40.5  | 32.8 | 18.6 | 13.5 | 10.7 | 8.98 | 7.82 | 6.23 | 5.16 | 2.72 |
| 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                                           | 124.3 | 104.7 | 80.7  | 60.5  | 51.2 | 30.9 | 23.4 | 18.6 | 15.6 | 13.6 | 11.1 | 9.30 | 4.99 |
| 1.80V/cell                                           | 143.0 | 119.5 | 90.5  | 67.1  | 56.3 | 33.5 | 25.2 | 20.1 | 16.8 | 14.5 | 11.8 | 9.90 | 5.26 |
| 1.75V/cell                                           | 149.7 | 124.3 | 93.8  | 69.3  | 58.0 | 34.3 | 25.7 | 20.5 | 17.1 | 14.8 | 12.0 | 10.0 | 5.33 |
| 1.70V/cell                                           | 156.5 | 129.5 | 97.1  | 71.4  | 59.6 | 35.2 | 26.0 | 20.7 | 17.5 | 15.1 | 12.2 | 10.2 | 5.38 |
| 1.67V/cell                                           | 161.8 | 132.3 | 99.0  | 72.6  | 60.6 | 35.6 | 26.3 | 20.9 | 17.5 | 15.3 | 12.4 | 10.3 | 5.40 |
| 1.60V/cell                                           | 168.8 | 138.6 | 103.3 | 75.5  | 63.0 | 36.5 | 26.5 | 21.0 | 17.6 | 15.5 | 12.5 | 10.3 | 5.43 |

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LPFG12-50HS (12V50Ah)



## APPLICATIONS

- For standard power cabinet
- Network connection equipment of communication system
- Power system of special network of local area network
- Power station systems
- UPS

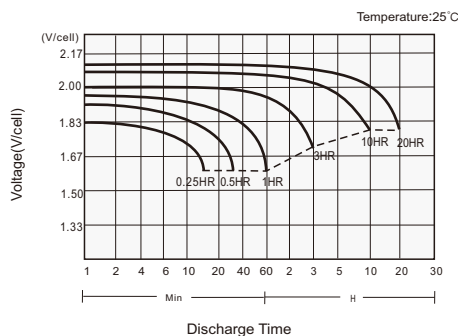
## GENERAL FEATURES

- 12 years design life (25°C)
- Proven AGM-GEL technology
- Excellent deep discharge recovery and cyclability
- Very low maintenance: no water addition
- Low self-discharge rate
- Front access design for easy installation and maintenance

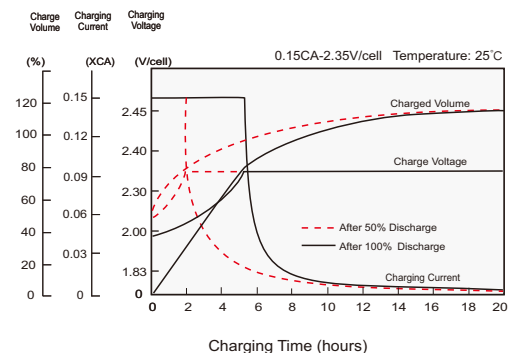
## STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Approved
- Manufactured in Leoch® IATF 16949, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

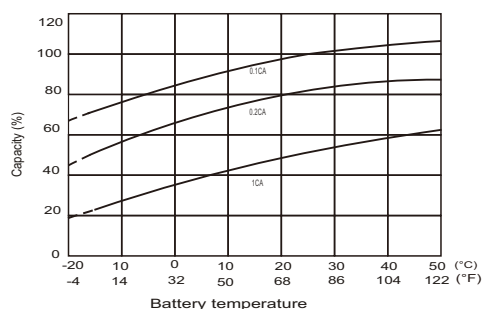
### Discharge Characteristics



### Charging Characteristics



### Effects of Temperature on Capacity



### Self Discharge Characteristics

