

# GB12-65

12V 65Ah(10hr)

The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.

## Battery Construction

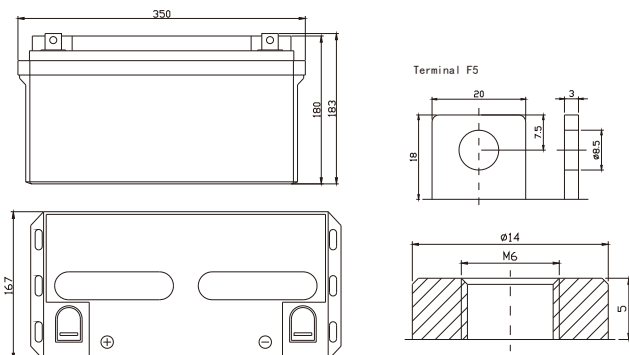
| Component    | Positive plate | Negative plate | Container | Cover | Safety valve | Terminal | Separator  | Electrolyte   |
|--------------|----------------|----------------|-----------|-------|--------------|----------|------------|---------------|
| Raw material | Lead dioxide   | Lead           | ABS       | ABS   | Rubber       | Copper   | Fiberglass | Sulfuric acid |

## General Features

- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.

## Dimensions and Weight

|                          |              |
|--------------------------|--------------|
| Length(mm / inch)        | 350 / 13.78  |
| Width(mm / inch)         | 167 / 6.57   |
| Height(mm / inch)        | 183 / 7.20   |
| Total Height(mm / inch)  | 183 / 7.20   |
| Approx. Weight(Kg / lbs) | 20.0 / 44.09 |



## Performance Characteristics

|                                                       |              |
|-------------------------------------------------------|--------------|
| Nominal Voltage                                       | 12V          |
| Number of cell                                        | 6            |
| Design Life                                           | 10 years     |
| Nominal Capacity 77°F(25°C)                           |              |
| 10 hour rate (6.5A, 10.8V)                            | 65Ah         |
| 5 hour rate (11.07A, 10.8V)                           | 55.35Ah      |
| 1 hour rate (39.17A, 10.5V)                           | 39.17Ah      |
| Internal Resistance                                   |              |
| Fully Charged battery 77°F(25°C)                      | ≤ 6.0mOhms   |
| Self-Discharge                                        |              |
| 3% of capacity declined per month at 25 °C (average)  |              |
| Operating Temperature Range                           |              |
| Discharge                                             | -20~60°C     |
| Charge                                                | -10~55°C     |
| Storage                                               | -10~50°C     |
| Max. Discharge Current 77°F(25°C)                     | 650A(5s)     |
| Short Circuit Current                                 | 1700A        |
| Charge Methods: Constant Voltage Charge 77° F(25 °C ) |              |
| Cycle use                                             | 2.40-2.45VPC |
| Maximum charging current                              | 19.5A        |
| Temperature compensation                              | -30mV/°C     |
| Standby use                                           | 2.20-2.30VPC |
| Temperature compensation                              | -20mV/°C     |

## Discharge Constant Current (Amperes at 77°F25 °C)

| End Point Volts/Cell | 5min  | 10min | 15min | 30min | 1h    | 3h    | 5h    | 10h  | 20h  |
|----------------------|-------|-------|-------|-------|-------|-------|-------|------|------|
| 1.60V                | 227.6 | 167.6 | 125.0 | 65.3  | 40.57 | 17.02 | 11.39 | 6.76 | 3.58 |
| 1.65V                | 221.0 | 159.4 | 122.4 | 64.5  | 40.03 | 16.71 | 11.29 | 6.70 | 3.51 |
| 1.70V                | 214.5 | 153.8 | 120.5 | 63.5  | 39.65 | 16.56 | 11.22 | 6.63 | 3.45 |
| 1.75V                | 192.6 | 141.9 | 114.7 | 61.7  | 39.17 | 16.41 | 11.13 | 6.57 | 3.38 |
| 1.80V                | 173.8 | 129.4 | 105.8 | 59.7  | 38.62 | 16.22 | 11.07 | 6.50 | 3.35 |

## Discharge Constant Power (Watts at 77 ° F25 °C)

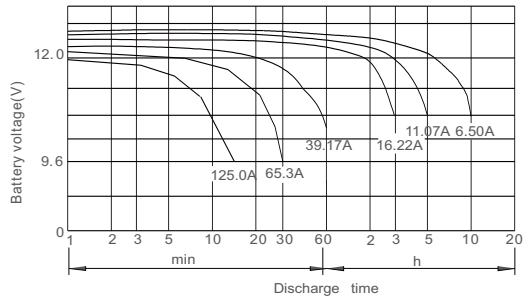
| End Point Volts/Cell | 5min | 10min | 15min | 30min | 1h   | 2h   | 3h   | 5h   | 10h  |
|----------------------|------|-------|-------|-------|------|------|------|------|------|
| 1.60V                | 400  | 298   | 227   | 125   | 78.4 | 48.9 | 33.4 | 22.8 | 13.5 |
| 1.65V                | 392  | 288   | 224   | 123   | 77.7 | 48.3 | 32.9 | 22.6 | 13.4 |
| 1.70V                | 388  | 281   | 221   | 122   | 77.2 | 48.0 | 32.8 | 22.4 | 13.3 |
| 1.75V                | 353  | 261   | 211   | 120   | 76.7 | 47.4 | 32.5 | 22.2 | 13.2 |
| 1.80V                | 322  | 241   | 195   | 117   | 75.7 | 47.0 | 32.1 | 22.1 | 13.0 |

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.

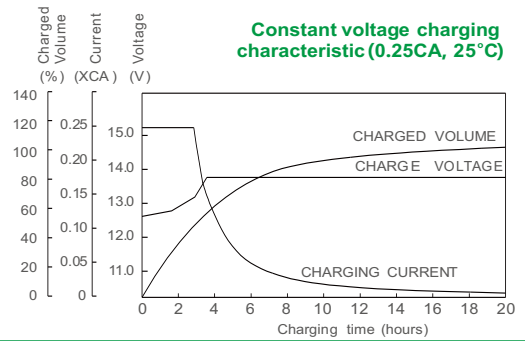
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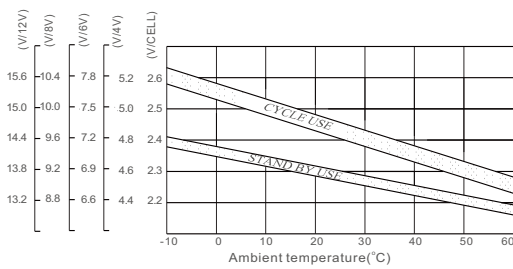
Discharge characteristic (25°C)



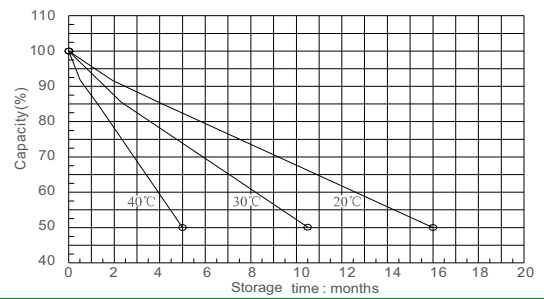
Constant voltage charging characteristic (0.25CA, 25°C)



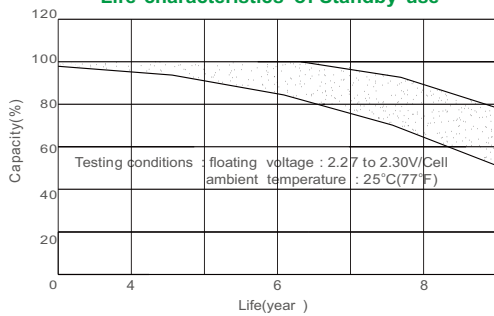
Relationship between charging voltage and temperature



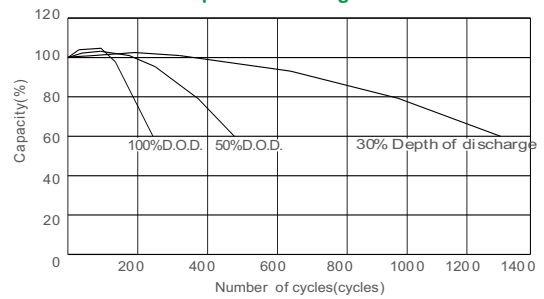
Self-discharge characteristic



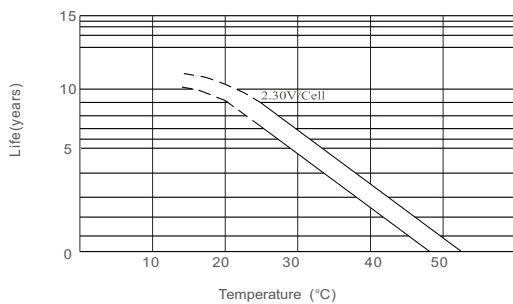
Life characteristics of Standby use



Cycle service life in relation to depth of discharge



Temperature effects on float life



Temperature effects on capacity

