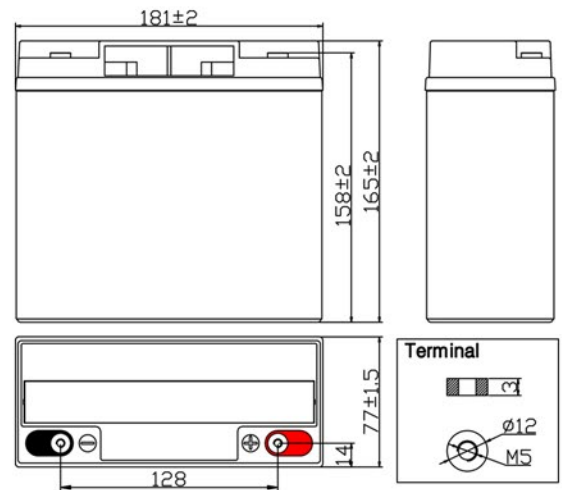


**Specification**

|                             |   |                                |
|-----------------------------|---|--------------------------------|
| Nominal Voltage (V)         | 12V (6 cells in series)   |                                |
| Rated Capacity              | 18Ah  | (C <sub>20</sub> , 1.75V/cell) |
| Dimensions(mm)              | Length  | 181 ± 2 mm                     |
|                             | Width   | 77 ± 1.5 mm                    |
|                             | Height  | 165 ± 2 mm                     |
|                             | Total Height  | 165 ± 2 mm                     |
| Nominal Capacity @25°C (Ah) | 20 Hour rate (0.909A to 10.5 volts)   | 18.1Ah                         |
|                             | 10 Hour rate (1.737A to 10.5 volts)   | 17.3Ah                         |
|                             | 5 Hour rate (3.105A to 10.5 volts)  | 15.5Ah                         |
|                             | 1 Hour rate (11.70A to 9.6 volts)   | 11.7Ah                         |
|                             | 15 min rate (34.65A to 9.6 volts)   | 8.66Ah                         |
| Approx. Weight              | 5.0 kg  |                                |
| Terminal                    | T10   |                                |
| Max. Discharge Current      | 270A @25°C (5s)   |                                |
| Internal Resistance         | 15mΩ @25°C (Full Charged Battery)   |                                |
| Floating Design Life        | 5 years @25°C   |                                |
| Ambient Temperature         | Charge:   | -15°C~50°C                     |
|                             | Discharge:  | -20°C~60°C                     |
|                             | Storage:  | -20°C~50°C                     |
| Container Material          | UL94-V0   |                                |
| Self Discharge              | VRLA batteries can be stored for more than 6 months at 25°C. Self-Discharge ratio less than 3% per month at 25°C. Please charge batteries before using. |                                |



**Constant Current Discharge Characteristics (A), (25°C)**

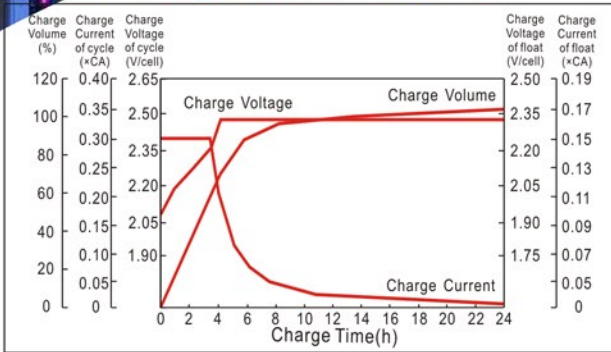
| F.V/TIME   | 5min  | 10min | 15min | 30min | 60min | 2H    | 3H    | 5H    | 8H    | 10H   | 20H   |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V/cell | 71.01 | 46.53 | 34.65 | 18.45 | 11.70 | 6.592 | 4.707 | 3.175 | 2.102 | 1.800 | 0.963 |
| 1.70V/cell | 64.44 | 43.11 | 32.67 | 17.91 | 11.44 | 6.489 | 4.590 | 3.128 | 2.070 | 1.755 | 0.929 |
| 1.75V/cell | 57.87 | 40.41 | 30.87 | 17.37 | 11.30 | 6.435 | 4.545 | 3.105 | 2.052 | 1.737 | 0.909 |
| 1.80V/cell | 51.93 | 37.80 | 29.07 | 16.83 | 11.13 | 6.381 | 4.491 | 3.069 | 2.025 | 1.710 | 0.873 |

**Constant Wattage Discharge Characteristics (Watt), (25°C)**

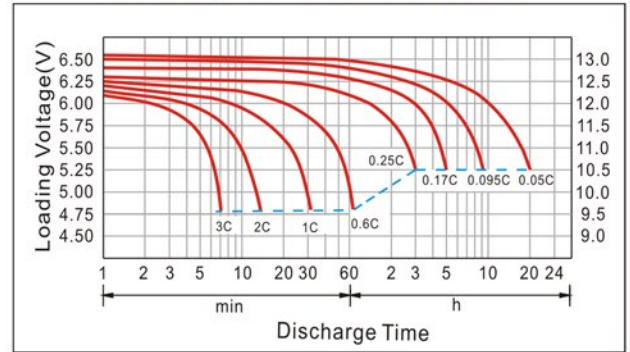
| F.V/TIME   | 5min  | 10min | 15min | 30min | 60min | 2H    | 3H    | 5H    | 8H    | 10H   | 20H   |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V/cell | 128.4 | 84.92 | 63.81 | 35.21 | 23.21 | 13.07 | 9.383 | 6.335 | 4.194 | 3.594 | 1.926 |
| 1.70V/cell | 118.7 | 80.11 | 61.26 | 34.48 | 22.78 | 12.92 | 9.165 | 6.246 | 4.133 | 3.510 | 1.861 |
| 1.75V/cell | 108.0 | 76.44 | 58.40 | 33.73 | 22.51 | 12.83 | 9.082 | 6.205 | 4.101 | 3.477 | 1.826 |
| 1.80V/cell | 97.80 | 72.14 | 55.48 | 32.96 | 22.21 | 12.73 | 8.982 | 6.138 | 4.050 | 3.423 | 1.753 |



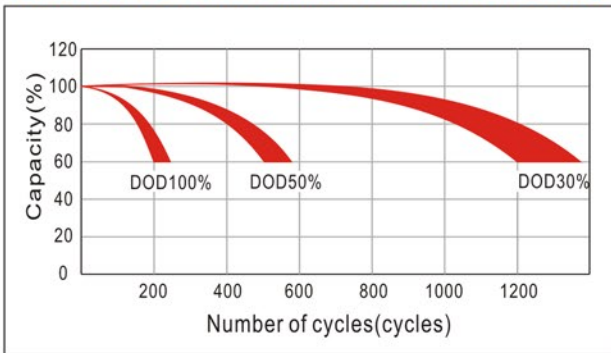
**Charge Characteristics Curve**



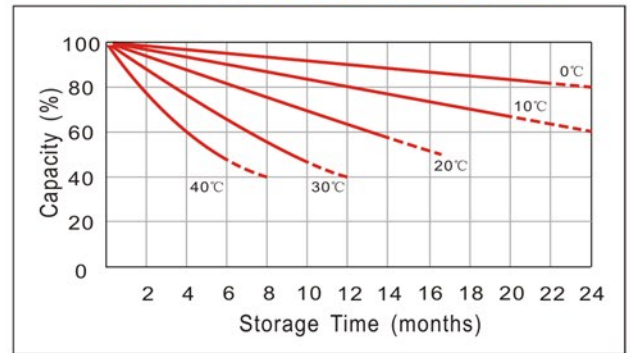
**Discharge Characteristics Curve**



**Cycle service life in relation to depth of discharge**



**Capacity Storage Characteristics**



**Capacity Factors with Different Temperature**

| Battery type |        | -20°C | -10°C | 0°C | 5°C | 10°C | 20°C | 25°C | 30°C | 40°C | 45°C |
|--------------|--------|-------|-------|-----|-----|------|------|------|------|------|------|
| GEL Battery  | 6V&12V | 50%   | 70%   | 83% | 85% | 90%  | 98%  | 100% | 102% | 104% | 105% |
|              | 2V     | 60%   | 75%   | 85% | 88% | 92%  | 99%  | 100% | 103% | 105% | 106% |
| AGM Battery  | 6V&12V | 46%   | 66%   | 76% | 83% | 90%  | 98%  | 100% | 103% | 107% | 109% |
|              | 2V     | 55%   | 70%   | 80% | 85% | 92%  | 99%  | 100% | 104% | 108% | 110% |

**Maintenance & Cautions**

**Charging Procedure:**

| Application              | Charging method                                      | Charge voltage at 25°C | Temperature compensation coefficient of charging voltage | Max. charging current | Temperature |
|--------------------------|--|------------------------|--|-----------------------|-------------|
| For standby power source | Constant voltage charging (With current restriction) | 2.25~2.30 V/cell       | -3mV/°C/cell   | 0.2CA                 | -15~50°C    |
| For cycle service        |  | 2.45~2.50 V/cell       | -4mV/°C/cell   | 0.3CA                 |             |

- Every month, recommend inspection every battery voltage.
- Every three months, recommend equalization charge for one time. **Equalization charge method:**  
Step 1: Discharge: 100% rate capacity discharge.  
Step 2: Charge: Max. Current 0.3CA, constant voltage 2.45~2.50V/Cell charge 24h.
- Length of service life will be directly affected by the number of discharge cycles, depth of discharge, Ambient temperature and charging voltage.
- Charge the batteries at least once every six months, if they are stored at 25°C. **Charging Method:**  
Constant Voltage :  $-0.2C \times 2h + 2.4 \sim 2.45V/cell \times 24h$  , Max. Current 0.25CA  
Constant Current :  $-0.2C \times 2h + 0.1C \times 12h$   
Fast :  $-0.2C \times 2h + 0.3C \times 4h$

**Terminal of torque:**

|          | M5      | M6                    | M8                  |
|----------|---------|-----------------------|---------------------|
| Bolt     | M5      | M6                    | M8                  |
| Terminal | T3, T10 | T4, T7, T11, T12, T13 | T5, T6, T8, T9, T14 |
| Torque   | 6~7N.m  | 8~10N.m               | 10~12N.m            |