



valve regulated  
sealed lead acid type  
rechargeable battery

 sunbattery®

# SB12-120(12V120AH)

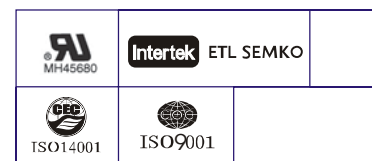
## Specification

|                                  |   |                               |
|----------------------------------|---|-------------------------------|
| Nominal Voltage                  | 12V   |                               |
| Nominal Capacity(10HR)           | 120.0AH   |                               |
| Dimension                        | Length  | 408±2mm (16.1 inches)         |
|                                  | Width   | 177±2mm (6.97 inches)         |
|                                  | Container Height  | 225±2mm (8.86 inches)         |
|                                  | Total Height (with Terminal)  | 225±2mm (8.86 inches)         |
| Approx Weight                    | Approx 36.6 Kg ( 80.7lbs)   |                               |
| Terminal                         | T11   |                               |
| Container Material               | ABS   |                               |
| Rated Capacity                   | 128.4 AH/6.42A  | (20hr, 1.80V/cell, 25°C/77°F) |
|                                  | 120.0 AH/12.0A  | (10hr, 1.80V/cell, 25°C/77°F) |
|                                  | 104.5 AH/20.9A  | (5hr, 1.75V/cell, 25°C/77°F)  |
|                                  | 93.6 AH/31.2A   | (3hr, 1.75V/cell, 25°C/77°F)  |
|                                  | 74.4 AH/74.4A   | (1hr, 1.60V/cell, 25°C/77°F)  |
| Max. Discharge Current           | 1300A (5s)  |                               |
| Internal Resistance              | Approx 4.0mΩ  |                               |
| 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 36.0A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C   |                               |
|                                  | Standby Use<br>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                   | SB series batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. |                               |



## Applications

- ◆ UPS and EPS
- ◆ Emergency light
- ◆ Railway signal and aircraft signal system
- ◆ Marine and power stations Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply, DC power supply



Conform to:  
IEC60896-21&22 and/or IEC61427

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

| F.V/Time   | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 140.4 | 118.1 | 104.8 | 86.9  | 67.0  | 57.4 | 37.1 | 27.9 | 22.9 | 19.2 | 16.9 | 13.5 | 11.6 | 6.20 |
| 1.80V/cell | 160.7 | 132.6 | 115.8 | 94.4  | 72.3  | 60.5 | 39.9 | 30.0 | 24.3 | 20.4 | 17.9 | 14.2 | 12.0 | 6.42 |
| 1.75V/cell | 182.5 | 149.4 | 128.0 | 102.5 | 78.9  | 66.0 | 41.5 | 31.2 | 25.2 | 20.9 | 18.4 | 14.7 | 12.3 | 6.58 |
| 1.70V/cell | 206.1 | 165.8 | 141.3 | 112.0 | 85.0  | 69.8 | 43.7 | 32.8 | 26.3 | 22.1 | 19.3 | 15.3 | 12.8 | 6.75 |
| 1.65V/cell | 221.3 | 177.5 | 150.3 | 118.1 | 89.9  | 72.2 | 45.3 | 34.2 | 27.3 | 22.8 | 20.0 | 15.9 | 13.2 | 6.96 |
| 1.60V/cell | 243.5 | 194.4 | 163.3 | 126.1 | 93.4  | 74.4 | 46.5 | 35.0 | 27.9 | 23.3 | 20.4 | 16.1 | 13.4 | 7.07 |

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

| F.V/Time   | 10min | 15min | 20min | 30min | 45min | 1h    | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 262.2 | 222.7 | 199.6 | 167.3 | 130.2 | 111.8 | 72.9 | 55.0 | 45.2 | 38.1 | 33.5 | 27.0 | 23.2 | 12.4 |
| 1.80V/cell | 296.5 | 246.7 | 217.4 | 179.0 | 139.4 | 117.4 | 77.8 | 58.7 | 47.8 | 40.2 | 35.3 | 28.3 | 24.0 | 12.8 |
| 1.75V/cell | 331.4 | 274.7 | 238.0 | 192.9 | 150.6 | 127.4 | 80.6 | 60.9 | 49.3 | 41.0 | 36.3 | 29.2 | 24.6 | 13.1 |
| 1.70V/cell | 365.9 | 300.6 | 260.8 | 209.5 | 161.6 | 134.4 | 84.8 | 63.9 | 51.4 | 43.3 | 38.0 | 30.4 | 25.5 | 13.5 |
| 1.65V/cell | 389.4 | 319.4 | 275.4 | 219.2 | 169.5 | 138.0 | 87.4 | 66.2 | 53.2 | 44.5 | 39.2 | 31.3 | 26.2 | 13.9 |
| 1.60V/cell | 418.7 | 344.1 | 295.9 | 232.3 | 175.2 | 141.4 | 89.2 | 67.6 | 54.2 | 45.5 | 39.9 | 31.8 | 26.7 | 14.1 |

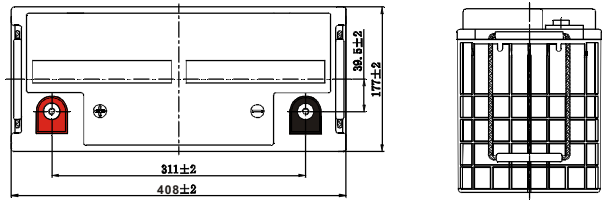
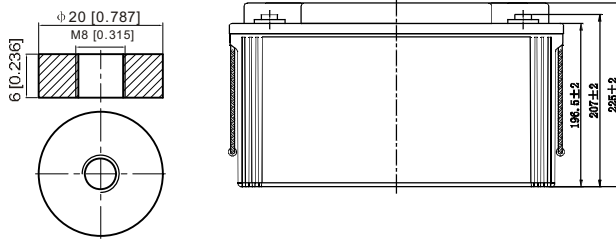


Specifications subject to change without notice.

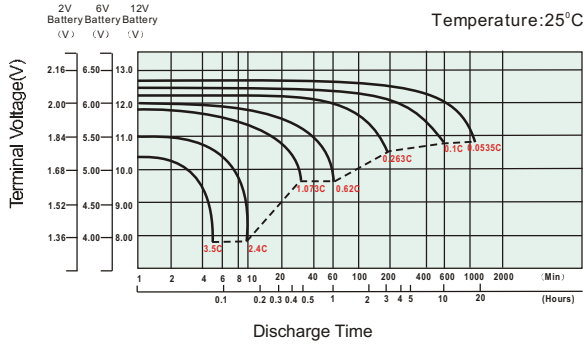
## Dimensions

### T11 Terminal

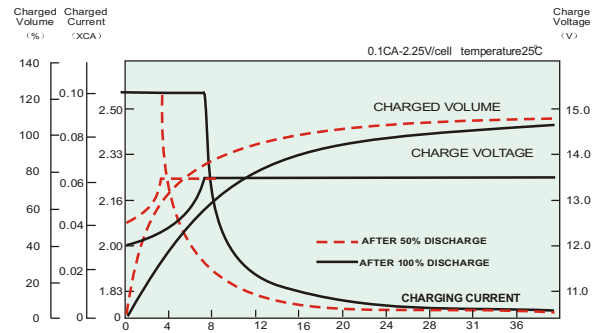
Unit: mm [inches]



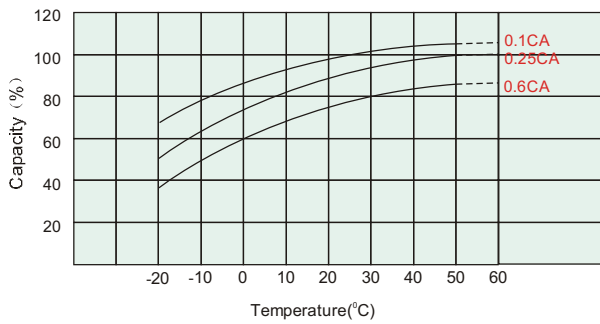
## Discharge Characteristics



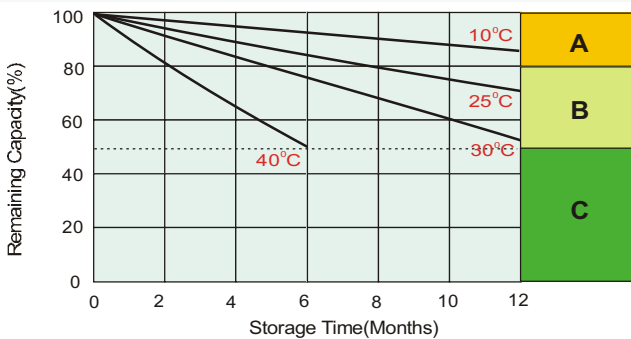
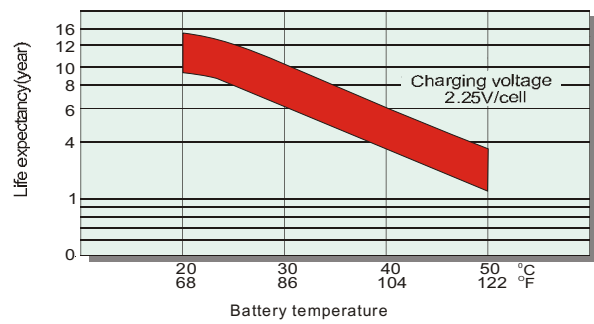
## Float Charging Characteristics



## Temperature Effects in Relation to Battery Capacity



## Effect of Temperature on Long Term Float Life



## Self Discharge Characteristics

- A** No supplementary charge required  
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
  1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
  2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
  3. Charged for 8-10 hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.