



# SB SERIES-General Purpose

## SB12-65LL (12V65AH)

### Specification

|                                  |                                                                                                                                                                             |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal Voltage /Capacity        | 12V/65Ah(10HR)                                                                                                                                                              |
| Design life                      | 10 years                                                                                                                                                                    |
| Dimension                        | Length 350±3mm (13.8 inches)                                                                                                                                                |
|                                  | Width 167±2mm (6.57 inches)                                                                                                                                                 |
|                                  | Container Height 179±2mm (7.05 inches)                                                                                                                                      |
|                                  | Total Height (with Terminal) 179±2mm (7.05 inches)                                                                                                                          |
| Approx Weight                    | Approx 20.4 kg (45.0 lbs)                                                                                                                                                   |
| Terminal                         | F11(M6)                                                                                                                                                                     |
| Container Material               | ABS                                                                                                                                                                         |
| Rated Capacity                   | 68 AH/3.40A (20hr, 1.80V/cell, 25°C/77°F)                                                                                                                                   |
|                                  | 65 AH/ 6.5 A (10hr, 1.80V/cell, 25°C/77°F)                                                                                                                                  |
|                                  | 55AH/11A (5hr, 1.75V/cell, 25°C/77°F)                                                                                                                                       |
|                                  | 51.6AH/17.2A (3hr, 1.75V/cell, 25°C/77°F)                                                                                                                                   |
|                                  | 45.1AH/45.1A (1hr, 1.60V/cell, 25°C/77°F)                                                                                                                                   |
| Max. Discharge Current           | 650A (5s)                                                                                                                                                                   |
| Internal Resistance              | Approx 6.8mΩ                                                                                                                                                                |
| 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 19.5A.Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C                                                                        |
|                                  | No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C                                                                            |
| Standby Use                      |                                                                                                                                                                             |
| Capacity affected by Temperature | 40°C (104°F) 103%                                                                                                                                                           |
|                                  | 25°C ( 77°F) 100%                                                                                                                                                           |
|                                  | 0°C ( 32°F) 86%                                                                                                                                                             |
| Self Discharge                   | Strabat series batteries may be stored for up to 6months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. |



### Applications

- ◆ All purpose
- ◆ 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

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

| F.V/Time   | 5min | 10min | 15min | 30min | 1h   | 3h   | 5h   | 10h  | 20h  |
|------------|------|-------|-------|-------|------|------|------|------|------|
| 1.80V/cell | 164  | 120   | 102   | 66.9  | 41.0 | 16.9 | 10.7 | 6.50 | 3.40 |
| 1.75V/cell | 177  | 129   | 109   | 69.2  | 41.9 | 17.2 | 11.0 | 6.53 | 3.42 |
| 1.70V/cell | 189  | 137   | 115   | 71.3  | 43.0 | 17.6 | 11.3 | 6.56 | 3.44 |
| 1.65V/cell | 201  | 144   | 121   | 73.3  | 44.0 | 18   | 11.6 | 6.58 | 3.46 |
| 1.60V/cell | 212  | 151   | 126   | 75.4  | 45.1 | 18.4 | 11.8 | 6.70 | 3.48 |

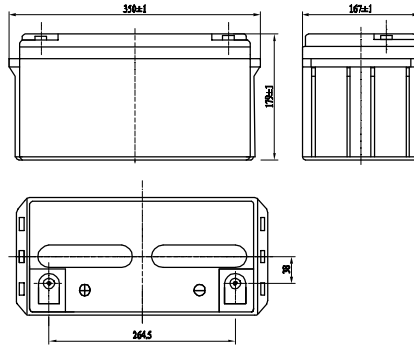
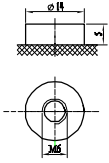
### Constant Power Discharge (Watts) at 25 °C (77°F )

| F.V/Time   | 5min | 10min | 15min | 30min | 45min | 1h   | 2h   | 3h   | 5h   |
|------------|------|-------|-------|-------|-------|------|------|------|------|
| 1.80V/cell | 302  | 215   | 187   | 122   | 91.3  | 75.7 | 43.3 | 31.1 | 21.4 |
| 1.75V/cell | 314  | 231   | 196   | 124   | 93.6  | 76.5 | 44.5 | 31.8 | 21.7 |
| 1.70V/cell | 335  | 246   | 200   | 127   | 95.7  | 78.3 | 45.6 | 32.5 | 22.0 |
| 1.65V/cell | 356  | 261   | 203   | 128   | 97.6  | 80.0 | 46.6 | 33.2 | 22.3 |
| 1.60V/cell | 378  | 275   | 207   | 129   | 99.1  | 81.8 | 47.5 | 33.8 | 22.5 |

## Dimensions

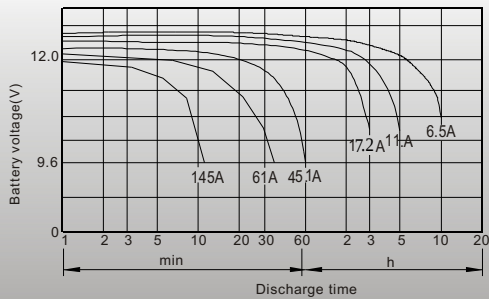
### F11 Terminal

Unit: mm [inches]

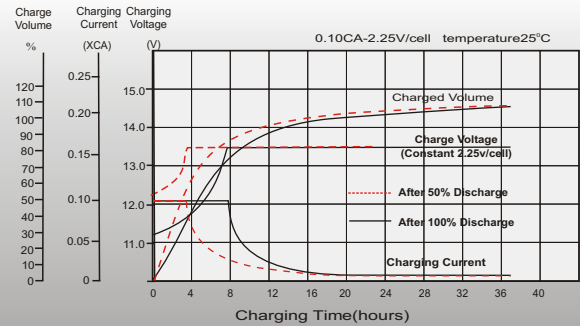


## Discharge Characteristics

Discharge characteristic (25°C)

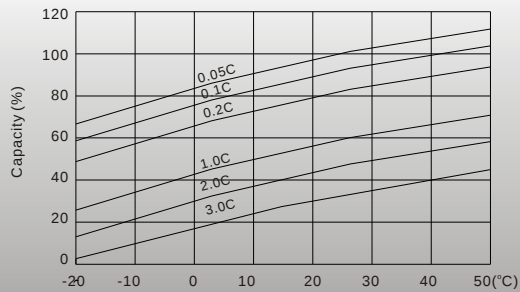


## Float Charging Characteristics



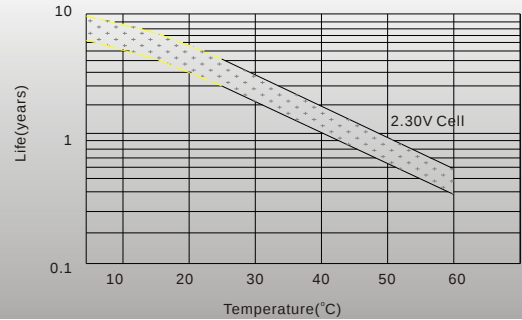
## Temperature Effects in Relation to Battery Capacity

Temperature effects on capacity



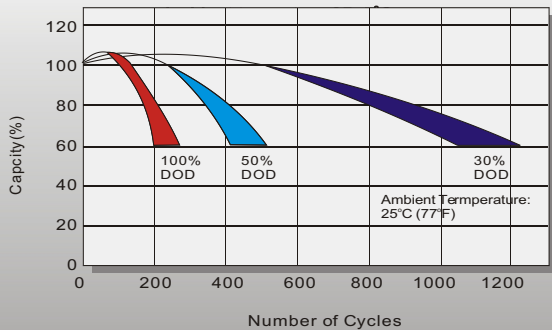
## Effect of Temperature on Long Term Float Life

Temperature effects on float life

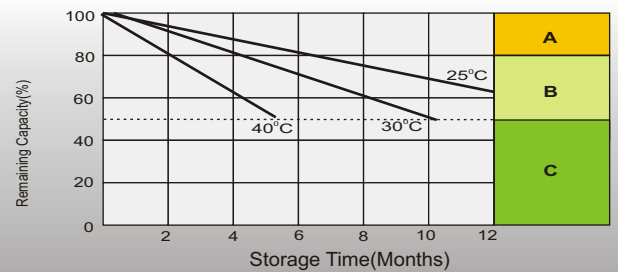


## Cycle Life in Relation to Depth of Discharge

Testing condition  
Discharging: current 0.17C (FV 1.7V/cell);  
Charging: current 0.25C max, voltage 2.45V/cell;  
Charging volume: 125% of discharged capacity.



## 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.