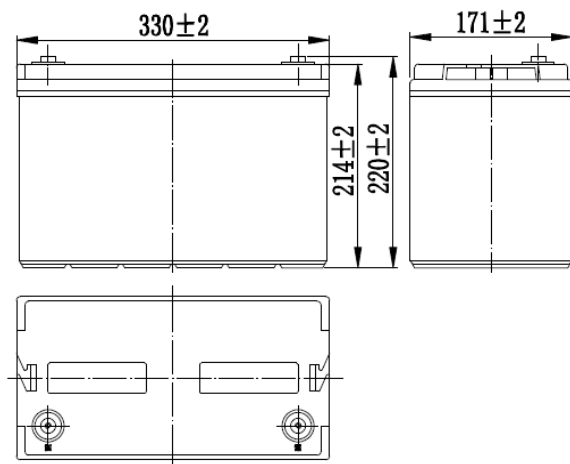


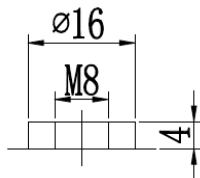
### Specifications

|                            |              |                     |
|----------------------------|--------------|---------------------|
| Nominal Voltage            |              | 12 V                |
| Number of cell             |              | 6 cells             |
| Rated capacity(15min.rate) |              | 390 Watts/cell      |
| Dimension                  | Length       | 330±2mm (12.99inch) |
|                            | Width        | 171±2mm (6.73inch)  |
|                            | Height       | 214±2mm (8.43inch)  |
|                            | Total Height | 220±2mm (8.66inch)  |
| Approx. Weight             |              | 32.7kg (72.1lbs)±3% |

### Dimensions



### Terminal



### Characteristics

|                                                  |           |                                                             |
|--------------------------------------------------|-----------|-------------------------------------------------------------|
| Capacity(10HR, 25℃)                              |           | 110 Ah                                                      |
| Capacity(15min.rate, 25℃)                        |           | 390 Watts/cell                                              |
| Terminal type                                    |           | T16                                                         |
| Internal resistance<br>(Fully charged, 25℃)      |           | Approx. 4m Ω                                                |
| Capacity<br>affected by<br>temperature<br>(10HR) | 40℃       | 102%                                                        |
|                                                  | 25℃       | 100%                                                        |
|                                                  | 0℃        | 85%                                                         |
|                                                  | -15℃      | 65%                                                         |
| Self-discharge<br>(25℃)                          | 3 month   | Remaining Capacity: 91%                                     |
|                                                  | 6 month   | Remaining Capacity: 82%                                     |
|                                                  | 12 month  | Remaining Capacity: 65%                                     |
| Nominal operating<br>temperature                 |           | 25℃ ± 3℃ (77°F ± 5°F)                                       |
| Operating<br>temperature<br>range                | Discharge | -15℃ ~ 50℃ (5°F ~ 122°F)                                    |
|                                                  | Charge    | -10℃ ~ 50℃ (14°F ~ 122°F)                                   |
|                                                  | Storage   | -20℃ ~ 50℃ (-4°F ~ 122°F)                                   |
| Float charging voltage(25℃)                      |           | 13.50 to 13.80V<br>Temperature compensation:<br>-18mV/℃     |
| Cyclic charging voltage(25℃)                     |           | 14.50 to 15.00V<br>Temperature compensation:<br>-30mV/℃     |
| Maximum charging current                         |           | 30A                                                         |
| Terminal material                                |           | Copper                                                      |
| Maximum discharge current                        |           | 800A(5 sec.)                                                |
| Designed floating life(20℃)                      |           | 10 years                                                    |
| Container Material                               |           | Flame Retardant ABS(UL 94-V0)<br>Model Name: SPL110-12HR-FR |

### Construction

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

### Constant Current Discharge Characteristics (A, 25℃)

| F.V/TIME   | 10min | 15min | 20min | 30min | 45min | 60min | 2h   | 3h   | 4h   | 5h   | 6h   |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 1.60V/cell | 279   | 208   | 167   | 118   | 88.0  | 71.8  | 38.4 | 27.5 | 22.2 | 19.3 | 16.5 |
| 1.67V/cell | 266   | 202   | 160   | 114   | 85.2  | 70.0  | 38.0 | 27.3 | 22.0 | 19.1 | 16.3 |
| 1.70V/cell | 259   | 196   | 157   | 112   | 83.6  | 68.9  | 37.8 | 27.2 | 21.9 | 19.0 | 16.3 |
| 1.75V/cell | 248   | 189   | 151   | 110   | 81.6  | 67.6  | 37.2 | 27.0 | 21.7 | 18.9 | 16.2 |
| 1.80V/cell | 234   | 179   | 143   | 105   | 78.6  | 65.5  | 36.3 | 26.2 | 21.1 | 18.3 | 15.7 |

### Constant Power Discharge Characteristics (Watt, 25℃)

| F.V/TIME   | 10min | 15min | 20min | 30min | 45min | 60min | 2h   | 3h   | 4h   | 5h   | 6h   |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 1.60V/cell | 525   | 402   | 322   | 228   | 170   | 139   | 74.8 | 54.2 | 43.7 | 38.2 | 32.7 |
| 1.67V/cell | 501   | 390   | 309   | 221   | 164   | 135   | 74.2 | 53.7 | 43.3 | 37.8 | 32.4 |
| 1.70V/cell | 488   | 378   | 303   | 217   | 161   | 133   | 73.7 | 53.5 | 43.1 | 37.7 | 32.2 |
| 1.75V/cell | 467   | 365   | 292   | 211   | 157   | 130   | 72.6 | 53.2 | 42.8 | 37.4 | 32.0 |
| 1.80V/cell | 441   | 346   | 277   | 204   | 152   | 126   | 70.8 | 51.6 | 41.5 | 36.3 | 31.1 |

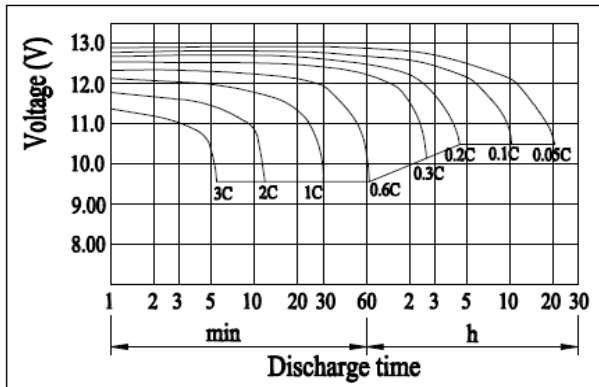
Note: The above characteristics data can be obtained within three charge/discharge cycles.

# SB BATTERY

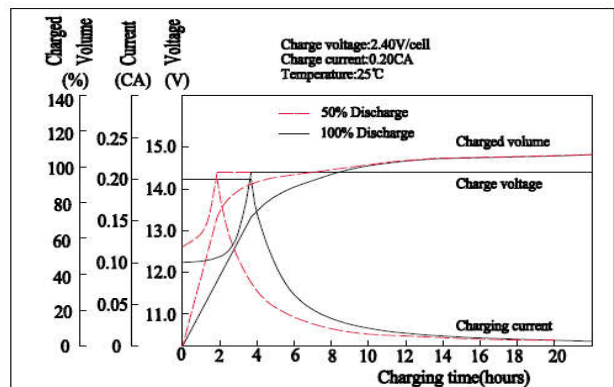
## SPL110-12 HR (402W/1.60VPC)FR

### Sealed Lead-Acid High Rate Batteries

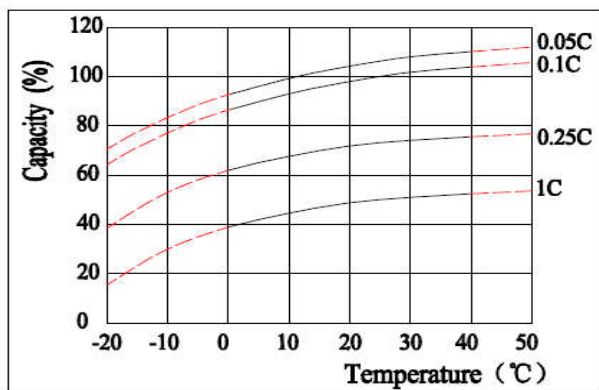
Discharge Characteristics(25°C)



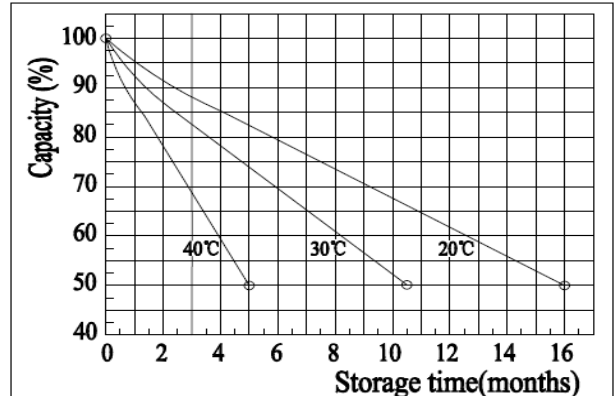
Charging Characteristics(25°C)



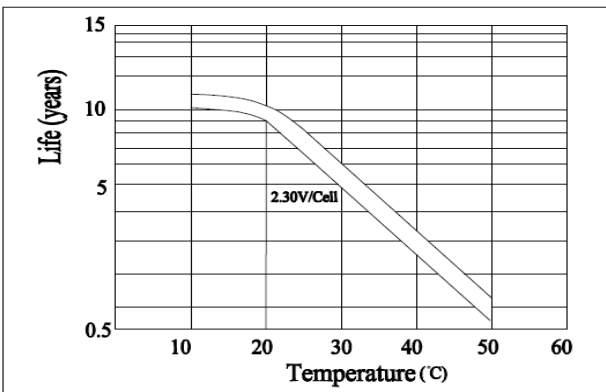
Effect of Temperature on Capacity



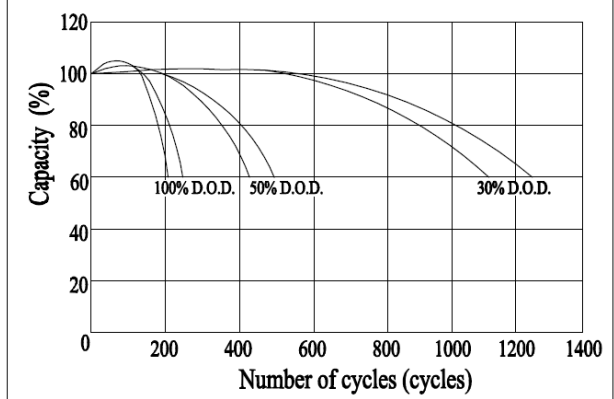
Self-discharge Characteristics



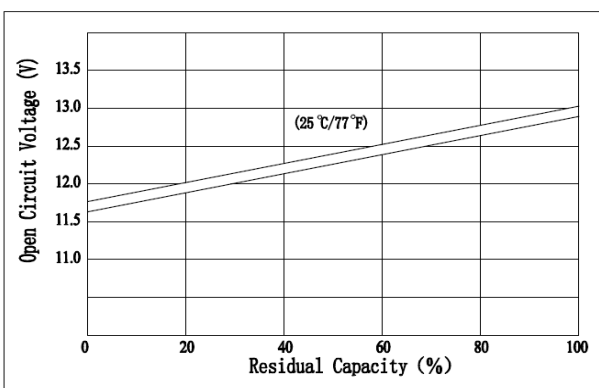
Floating Life on Temperature



Cycle Life on D.O.D(25°C)



The Relationship for Open Circuit Voltage and Residual Capacity (25°C)



The Relationship for Charging Voltage and Temperature

