



valve regulated  
sealed lead acid type  
rechargeable battery

**sunbattery®**

# SB12-120 (12V120AH)

## Specification

Nominal Voltage	12V	
Nominal Capacity(10HR)	120.0AH	
Dimension	Length	410±3mm (16.14 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 37.6 kg (82.9lbs)	
Terminal	T11	
Container Material	ABS	
Rated Capacity	124.8 AH/6.24A	(20hr, 1.80V/cell, 25°C/77°F)
	120.0 AH/12.0A	(10hr, 1.80V/cell, 25°C/77°F)
	103.2 AH/20.64A	(5hr, 1.75V/cell, 25°C/77°F)
	93.6 AH/31.2A	(3hr, 1.75V/cell, 25°C/77°F)
	73.2 AH/73.2A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	1200A (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	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.	
Life expectancy	8~12years at 25 C with charge voltage 2.25V/cell.	



## 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	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	205.4	161.5	137.3	114.9	91.3	69.1	56.6	36.0	28.5	23.3	18.8	16.3	13.3	11.3	6.18
1.80V/cell	275.7	206.3	165.9	135.8	107.7	80.4	63.4	39.3	30.7	24.8	20.1	17.5	14.1	12.0	6.24
1.75V/cell	310.8	226.7	181.2	146.1	111.8	83.4	66.3	40.8	31.2	25.4	20.6	18.0	14.3	12.1	6.30
1.70V/cell	342.3	247.1	193.5	153.5	116.4	86.7	68.4	42.4	32.1	26.1	21.2	18.4	14.5	12.2	6.42
1.65V/cell	377.4	266.7	205.7	163.1	122.8	88.9	70.7	43.6	33.5	27.0	21.8	18.8	14.7	12.5	6.50
1.60V/cell	416.3	289.5	220.0	173.7	129.6	92.6	73.2	45.1	34.5	27.8	22.5	19.2	14.9	12.6	6.54

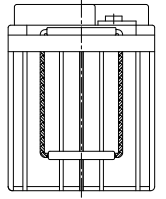
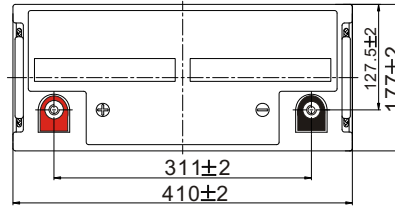
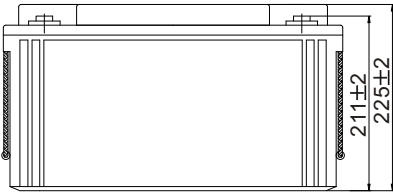
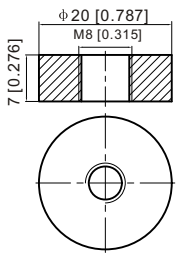
## Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	375.5	298.3	256.2	216.5	174.0	132.8	109.1	70.0	55.5	45.5	36.8	32.1	26.2	22.4	12.2
1.80V/cell	498.7	376.6	305.4	252.2	202.2	153.2	121.6	75.9	59.4	48.3	39.3	34.3	27.7	23.7	12.3
1.75V/cell	550.3	407.2	329.5	268.7	208.1	157.5	126.6	78.4	60.3	49.2	40.2	35.1	28.1	23.9	12.4
1.70V/cell	589.2	433.8	346.9	280.2	215.4	163.2	130.2	81.3	61.9	50.4	41.1	35.8	28.5	24.1	12.7
1.65V/cell	640.5	463.8	366.0	295.5	225.4	165.8	133.6	83.1	64.2	52.0	42.1	36.5	28.8	24.6	12.8
1.60V/cell	690.1	492.1	385.0	311.3	236.3	171.8	137.6	85.5	65.9	53.4	43.4	37.2	29.1	24.8	12.9

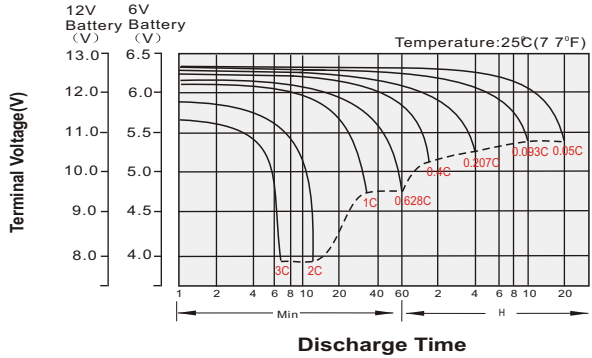
# Dimensions

## T11 Terminal

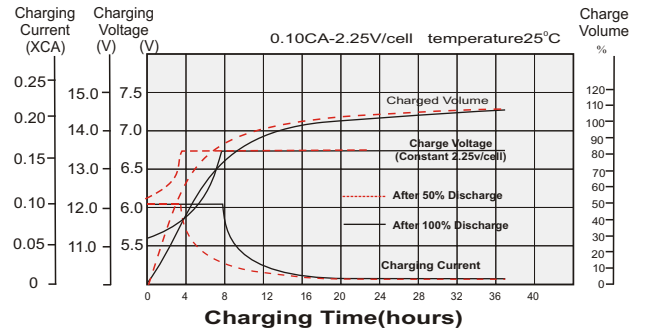
Unit: mm [inches]



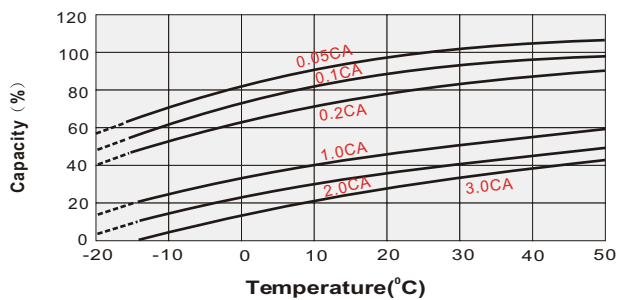
## Discharge Characteristics



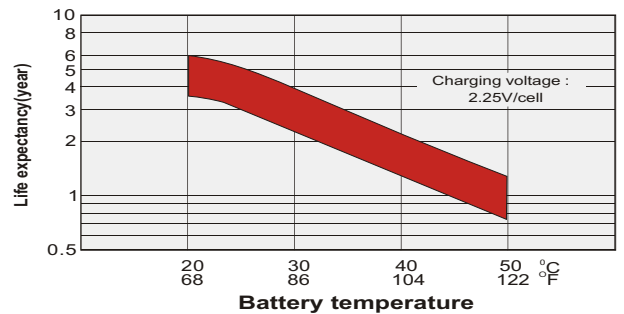
## Float Charging Characteristics



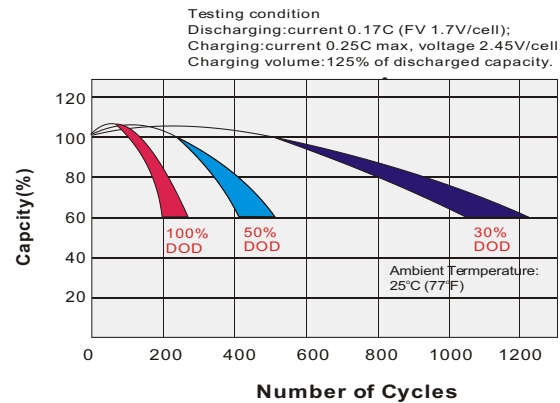
## Temperature Effects in Relation to Batter Capacity



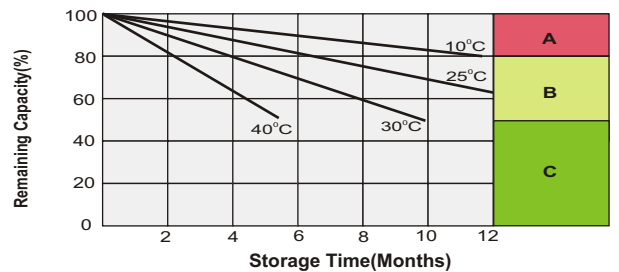
## Effect of Temperature on Long Term Float Life



## Cycle Life in Relation to Depth of Discharge



## 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.