

# LL SERIES-Long Life

## LL12150(12V150AH)



Specification	
Nominal Voltage	12V
Nominal Capacity(20HR)	150.0AH
Dimension	Length 483±3mm (19.01 inches)
	Width 170±2mm (6.69 inches)
	Container Height 238.5±3mm (9.39 inches)
	Total Height (with Terminal) 238.5±3mm (9.39 inches)
Approx Weight	Approx 46.2 Kg (101.9 lbs)
Terminal	T11
Container Material	ABS
Rated Capacity	152.0 AH/7.60A (20hr, 1.80V/cell, 25°C/77°F)
	145.0 AH/14.5A (10hr, 1.80V/cell, 25°C/77°F)
	132.0 AH/26.4A (5hr, 1.75V/cell, 25°C/77°F)
	120.3 AH/40.1A (3hr, 1.75V/cell, 25°C/77°F)
	91.1 AH/91.1A (1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	1740A (5s)
Internal Resistance	Approx 3.5mΩ
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 43.5A. 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	LL series batteries may be stored for up to 6 months at 20°C(68°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

### 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	214.5	186.0	146.3	130.8	95.6	81.0	49.4	36.2	28.4	24.7	21.7	16.7	13.8	7.3
1.80V/cell	243.5	210.8	165.4	142.4	101.3	83.9	51.0	39.3	30.3	25.9	23.3	17.6	14.5	7.6
1.75V/cell	264.1	228.2	178.5	145.3	105.0	88.0	53.7	40.1	30.9	26.4	23.5	17.7	14.6	7.7
1.70V/cell	281.6	242.3	189.3	148.2	107.1	89.8	54.7	40.8	31.4	26.8	23.6	17.9	14.8	7.8
1.65V/cell	290.5	249.4	194.5	150.4	108.7	91.1	55.5	41.2	31.9	27.4	23.8	18.2	15.0	7.9
1.60V/cell	300.4	257.1	199.5	152.6	110.2	92.4	56.3	41.6	32.3	27.8	23.9	18.4	15.2	8.0

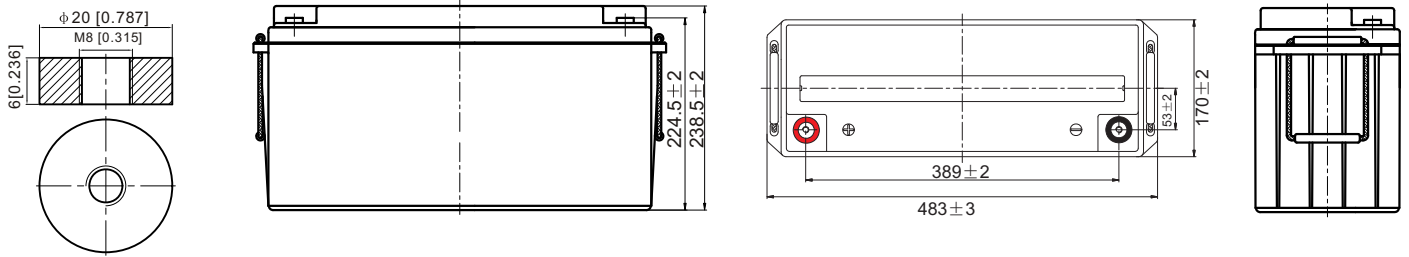
### Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	403.6	352.1	278.2	249.9	183.9	156.7	96.0	70.8	55.7	48.6	42.9	33.2	27.5	14.6
1.80V/cell	451.4	393.9	311.2	269.9	193.5	161.4	98.7	76.4	59.3	50.8	45.9	34.8	28.8	15.1
1.75V/cell	481.8	420.4	332.1	273.3	199.3	168.6	103.4	77.7	60.2	51.6	46.2	34.9	29.0	15.3
1.70V/cell	506.5	442.0	349.2	276.5	201.9	171.1	105.1	78.9	61.0	52.3	46.3	35.4	29.3	15.4
1.65V/cell	514.7	449.2	354.8	278.4	203.7	172.6	106.2	79.3	61.7	53.2	46.4	35.8	29.6	15.6
1.60V/cell	522.0	455.5	359.8	279.6	204.8	173.9	107.0	79.6	62.2	53.7	46.6	36.2	29.9	15.7

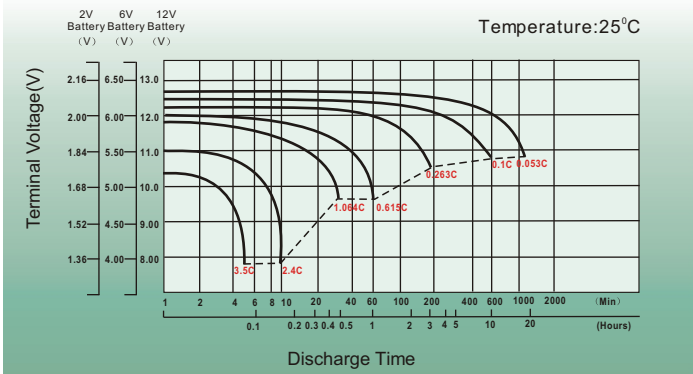
## Dimensions

### T11 Terminal

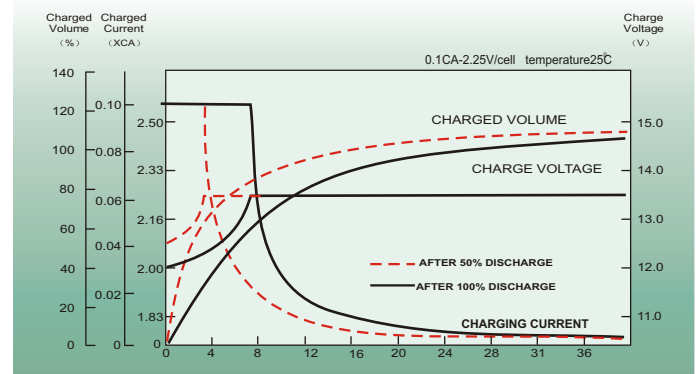
Unit: mm [inches]



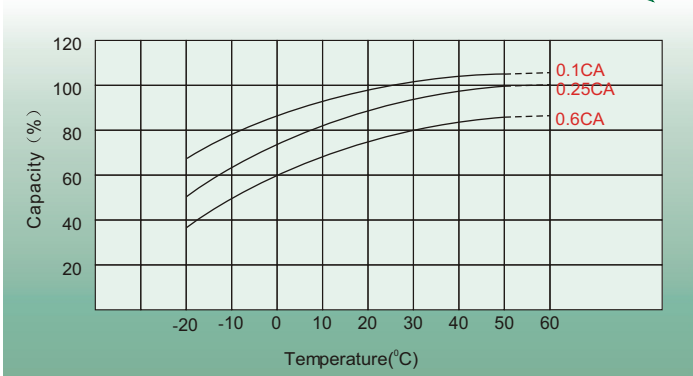
## Discharge Characteristics



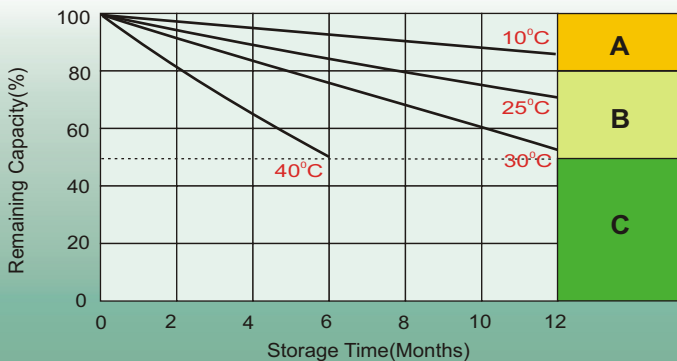
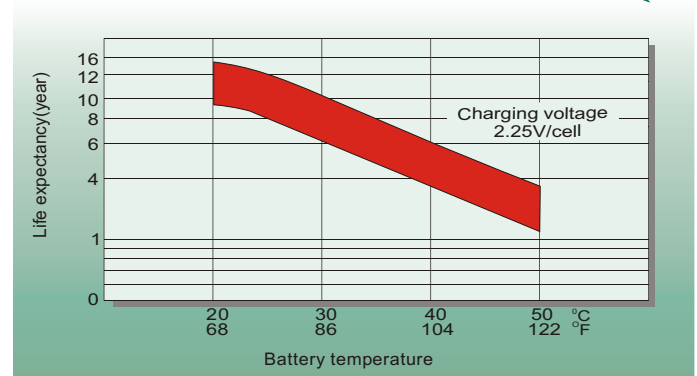
## Float Charging Characteristics



## 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 volatge 2.25V/cell.
  2. Charged for above 20hours at limited current 0.25CA and constant volatge 2.45V/cell.
  3. Charged for 8~10hours 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.