

# LP SERIES-General Purpose

## LP12-135 (12V135AH)

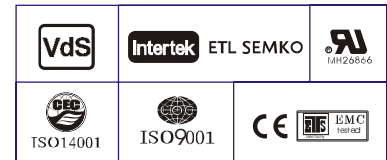
### Specification

Nominal Voltage	12V	
Nominal Capacity(10HR)	135.0AH	
Dimensions	Length	345±3mm (13.6 inches)
	Width	172±2mm (6.77 inches)
	Container Height	274±3mm (10.79 inches)
	Total Height (with Terminal)	280±3mm (11.02 inches)
Approx Weight	Approx 41.2 kg (90.8lbs)	
Terminal	T11	
Container Material	ABS	
Rated Capacity	140.4AH/7.02A	(20hr, 1.80V/cell, 25°C/77°F)
	135.0AH/13.5A	(10hr, 1.80V/cell, 25°C/77°F)
	116AH/23.2A	(5hr, 1.75V/cell, 25°C/77°F)
	105.3AH/35.1A	(3hr, 1.75V/cell, 25°C/77°F)
	82.4AH/82.4A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	1350A (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 40.5A. 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	Leoch LP 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

- ◆ 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	231.1	181.7	154.5	129.2	102.7	77.7	63.6	40.5	32.0	26.2	21.1	18.4	14.9	12.7	6.95
1.80V/cell	310.1	232.1	186.7	152.7	121.2	90.4	71.3	44.2	34.5	28.0	22.7	19.7	15.8	13.5	7.02
1.75V/cell	349.7	255.0	203.9	164.3	125.8	93.8	74.6	45.9	35.1	28.6	23.2	20.3	16.1	13.6	7.09
1.70V/cell	385.1	278.0	217.7	172.7	130.9	97.6	76.9	47.7	36.1	29.3	23.8	20.7	16.3	13.8	7.22
1.65V/cell	424.6	300.0	231.4	183.5	138.1	100.0	79.5	49.0	37.6	30.3	24.5	21.1	16.6	14.1	7.32
1.60V/cell	468.3	325.7	247.5	195.4	145.8	104.2	82.4	50.7	38.8	31.3	25.3	21.6	16.7	14.2	7.36

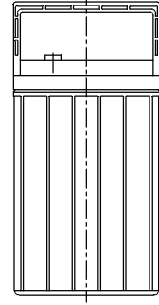
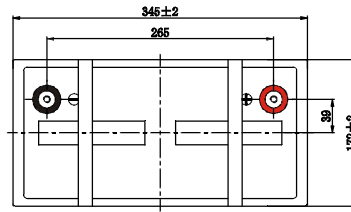
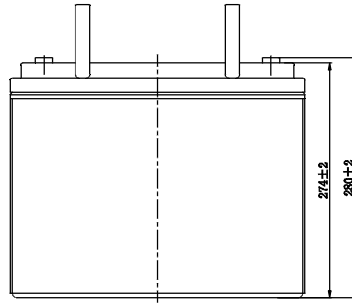
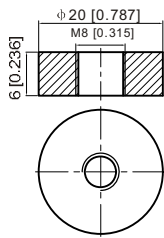
### Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	422.5	335.6	288.3	243.6	195.7	149.4	122.8	78.7	62.5	51.2	41.4	36.1	29.5	25.2	13.8
1.80V/cell	561.0	423.7	343.6	283.7	227.4	172.4	136.8	85.3	66.9	54.4	44.2	38.6	31.1	26.7	13.9
1.75V/cell	619.1	458.1	370.7	302.2	234.2	177.2	142.4	88.2	67.8	55.4	45.2	39.5	31.6	26.9	14.0
1.70V/cell	662.8	488.0	390.3	315.3	242.4	183.6	146.5	91.5	69.6	56.7	46.3	40.3	32.0	27.2	14.3
1.65V/cell	720.6	521.8	411.8	332.4	253.6	186.5	150.3	93.5	72.2	58.5	47.4	41.1	32.4	27.7	14.4
1.60V/cell	776.4	553.6	433.1	350.2	265.8	193.3	154.8	96.2	74.1	60.1	48.8	41.8	32.7	27.9	14.5

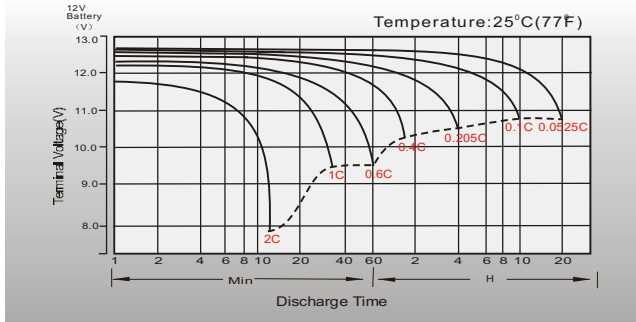
## Dimensions

### T11 Terminal

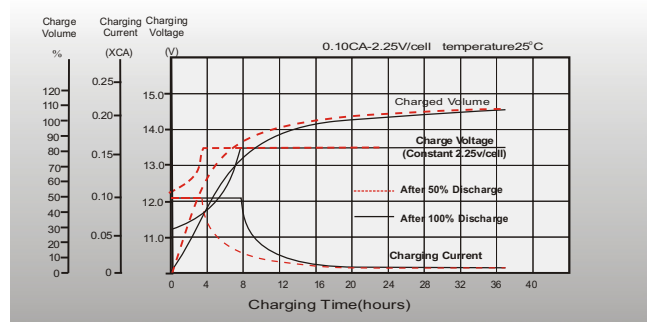
Unit: mm [inches]



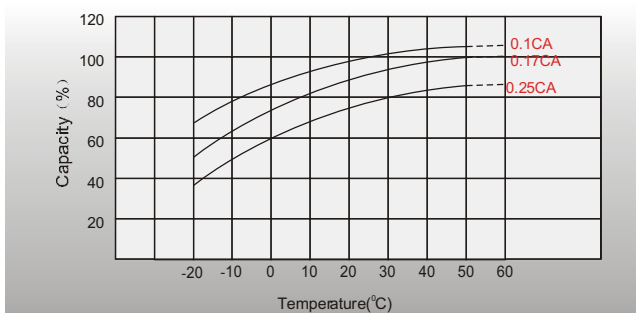
## Discharge Characteristics



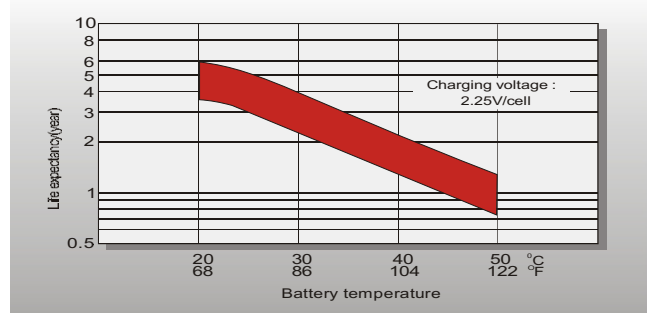
## Float Charging Characteristics



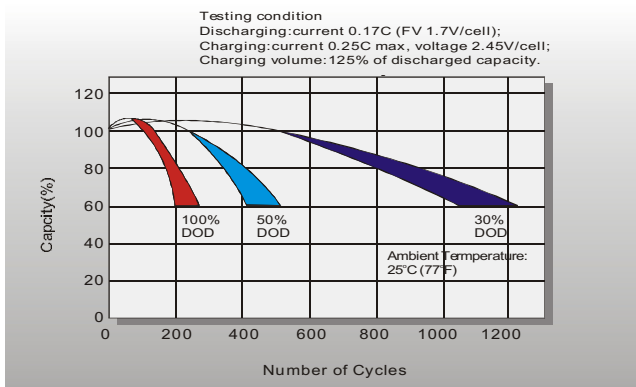
## Temperature Effects in Relation to Battery Capacity



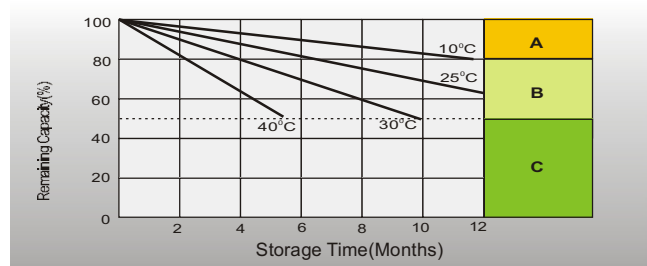
## Effect of Temperature on Long Term Float Life



## 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.

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