

# LP SERIES-General Purpose

## LP12-28 (12V28AH)

### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	28.0AH	
Dimension	Length	166.5±1mm (6.56 inches)
	Width	175±1mm (6.93 inches)
	Container Height	125±1mm (4.92 inches)
	Total Height (with Terminal)	125±1mm (4.92 inches)
Approx Weight	Approx 8.4 kg (18.5lbs)	
Terminal	T3 / T12	
Container Material	ABS	
Rated Capacity	28.0 AH/1.40A	(20hr, 1.80V/cell, 25°C/77°F)
	26.2 AH/2.62A	(10hr, 1.80V/cell, 25°C/77°F)
	24.3 AH/4.85A	(5hr, 1.75V/cell, 25°C/77°F)
	22.1 AH/7.38A	(3hr, 1.75V/cell, 25°C/77°F)
	19.0 AH/19.0A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	420A (5s)	
Internal Resistance	Approx 14mΩ	
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 8.4A. 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	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.85V/cell	68.6	53.4	44.0	29.7	16.6	9.69	7.03	5.57	4.63	3.11	2.56	1.38
1.80V/cell	79.1	58.2	47.3	30.8	17.2	9.91	7.21	5.72	4.75	3.19	2.62	1.40
1.75V/cell	89.2	63.2	50.0	31.8	17.7	10.2	7.38	5.87	4.85	3.25	2.67	1.42
1.70V/cell	99.4	66.7	53.3	32.7	18.2	10.5	7.57	5.99	4.96	3.30	2.71	1.44
1.65V/cell	105.5	70.0	54.4	33.2	18.6	10.7	7.77	6.12	5.07	3.36	2.76	1.46
1.60V/cell	110.5	72.6	55.9	34.0	19.0	11.0	7.93	6.26	5.17	3.43	2.80	1.47

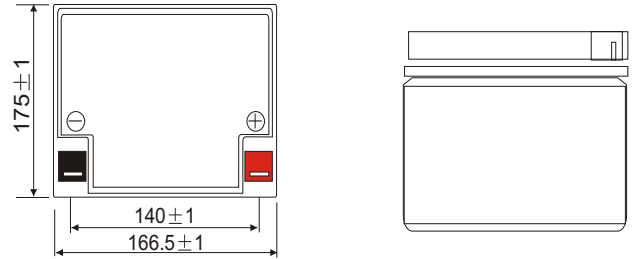
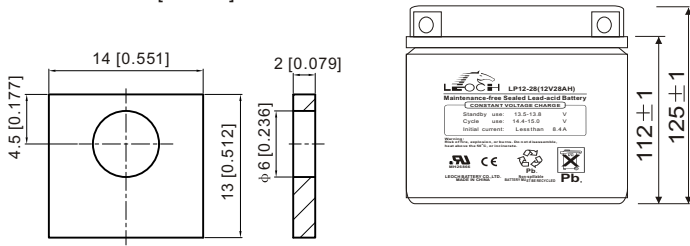
### Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.85V/cell	130.3	102.8	85.8	58.4	32.9	19.3	14.1	11.2	9.28	6.24	5.14	2.78
1.80V/cell	147.7	110.4	91.1	60.0	33.9	19.7	14.4	11.4	9.51	6.38	5.26	2.81
1.75V/cell	163.7	118.1	95.2	61.5	34.7	20.1	14.7	11.7	9.69	6.50	5.36	2.85
1.70V/cell	179.4	123.1	100.5	62.8	35.4	20.5	15.0	11.9	9.89	6.60	5.42	2.89
1.65V/cell	188.7	128.2	101.8	63.3	35.9	20.9	15.3	12.1	10.1	6.70	5.51	2.92
1.60V/cell	193.7	130.9	103.3	64.0	36.3	21.2	15.5	12.3	10.2	6.80	5.57	2.93

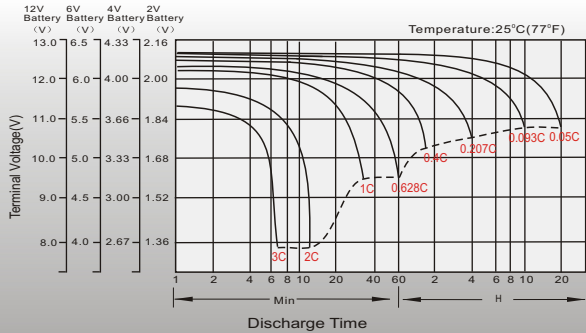
# Dimensions

## T3 Terminal

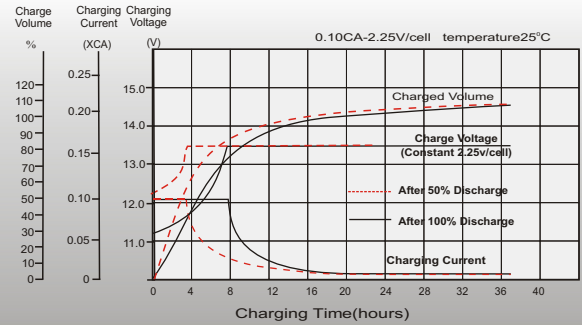
Unit: mm [inches]



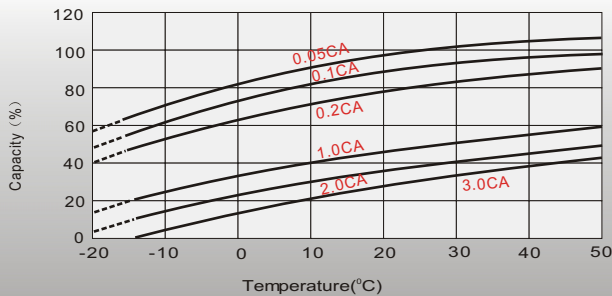
## Discharge Characteristics



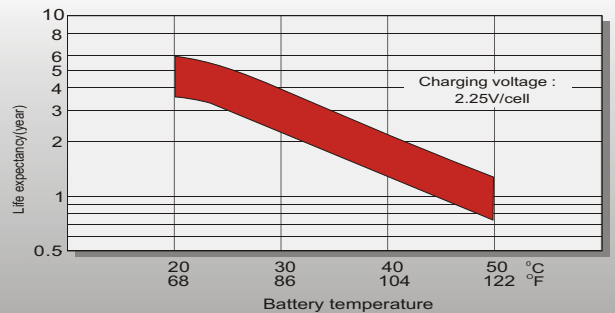
## Float Charging Characteristics



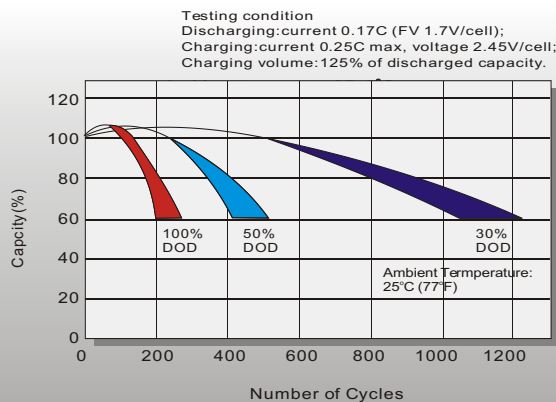
## Temperature Effects in Relation to Battery Capacity



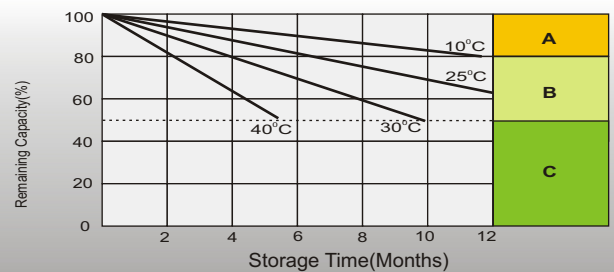
## Effect of Temperature on Long Term Float Life



## 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 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.

## Sales Office

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