

# LP SERIES-General Purpose

## LP12-2.2 (12V2.2AH)

### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	2.2AH	
Dimension	Length	70 ± 1mm (2.76 inches)
	Width	48 ± 1mm (1.89 inches)
	Container Height	98 ± 1mm (3.86 inches)
	Total Height (with Terminal)	104 ± 1mm (4.09 inches)
Approx Weight	Approx 0.80 kg (1.76lbs)	
Terminal	T1	
Container Material	ABS	
Rated Capacity	2.20 AH/0.110A	(20hr, 1.80V/cell, 25°C/77°F)
	2.05 AH/0.205A	(10hr, 1.80V/cell, 25°C/77°F)
	1.85 AH/0.37A	(5hr, 1.75V/cell, 25°C/77°F)
	1.68 AH/0.56A	(3hr, 1.75V/cell, 25°C/77°F)
	1.38 AH/1.38A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	33A (5s)	
Internal Resistance	Approx 100mΩ	
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 0.66A. 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	4.19	3.22	2.67	2.30	1.78	1.31	1.11	0.65	0.51	0.42	0.339	0.295	0.237	0.198	0.109
1.80V/cell	5.62	4.11	3.22	2.72	2.10	1.53	1.24	0.71	0.55	0.44	0.364	0.316	0.252	0.205	0.110
1.75V/cell	6.34	4.52	3.52	2.93	2.18	1.58	1.30	0.74	0.56	0.45	0.374	0.325	0.256	0.210	0.111
1.70V/cell	6.98	4.92	3.75	3.08	2.27	1.65	1.34	0.76	0.58	0.47	0.383	0.331	0.260	0.214	0.113
1.65V/cell	7.70	5.31	3.99	3.27	2.40	1.69	1.37	0.77	0.60	0.48	0.394	0.339	0.264	0.219	0.115
1.60V/cell	8.49	5.77	4.27	3.48	2.53	1.76	1.38	0.80	0.62	0.50	0.407	0.346	0.267	0.221	0.115

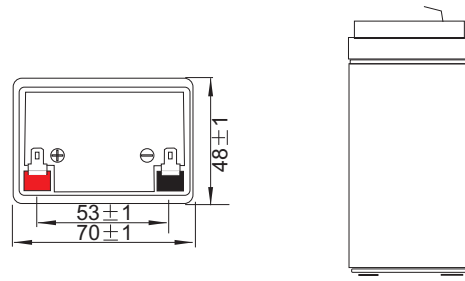
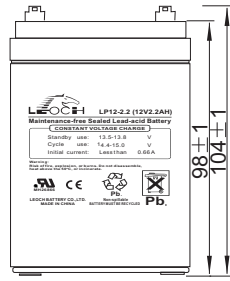
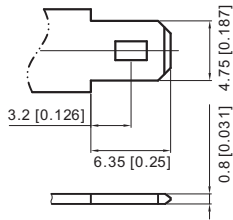
### Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	7.66	5.94	4.97	4.34	3.40	2.52	2.13	1.27	1.00	0.81	0.666	0.579	0.469	0.393	0.216
1.80V/cell	10.17	7.50	5.93	5.06	3.95	2.91	2.38	1.38	1.07	0.86	0.711	0.619	0.496	0.404	0.218
1.75V/cell	11.23	8.11	6.40	5.39	4.06	2.99	2.48	1.42	1.08	0.88	0.727	0.633	0.503	0.415	0.219
1.70V/cell	12.02	8.64	6.73	5.62	4.20	3.10	2.55	1.46	1.11	0.90	0.744	0.646	0.510	0.423	0.223
1.65V/cell	13.07	9.24	7.10	5.93	4.40	3.15	2.59	1.47	1.15	0.93	0.762	0.658	0.517	0.431	0.226
1.60V/cell	14.08	9.81	7.47	6.25	4.61	3.26	2.60	1.52	1.18	0.96	0.785	0.670	0.521	0.435	0.227

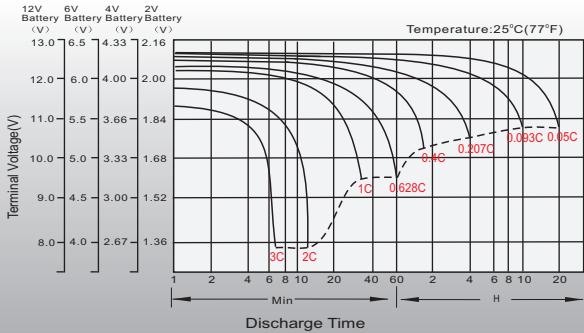
# Dimensions

## T1 Terminal

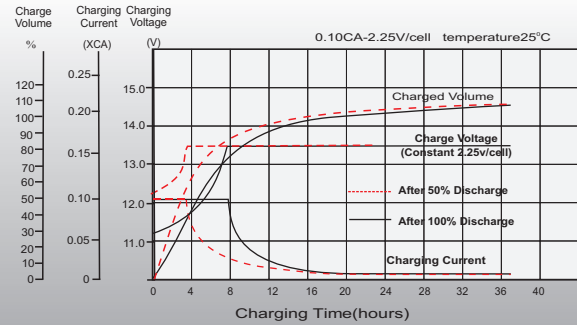
Unit: mm [inches]



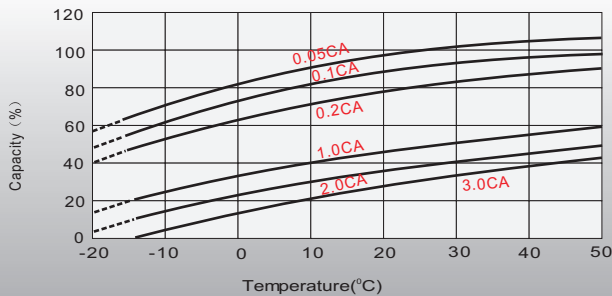
## Discharge Characteristics



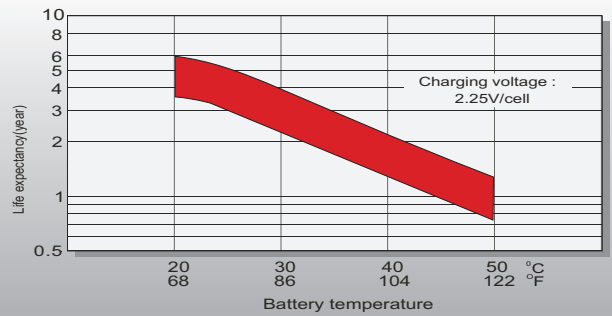
## Float Charging Characteristics



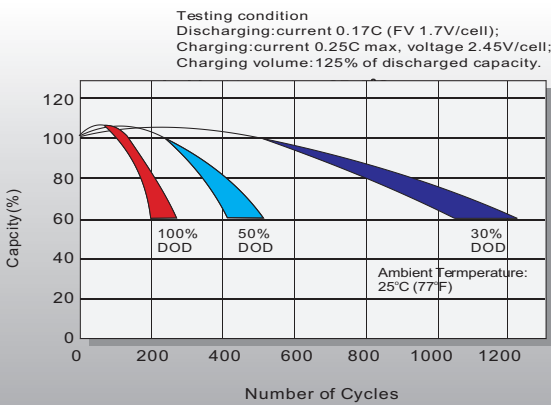
## Temperature Effects in Relation to Battery Capacity



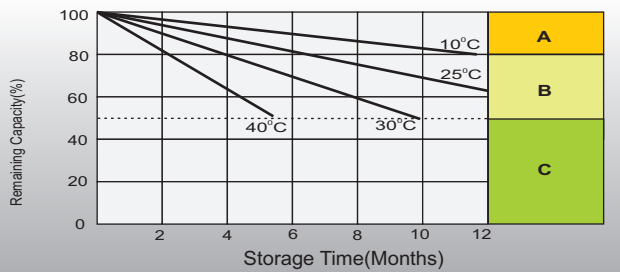
## Effect of Temperature on Long Term Float Life



## 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.

## Sales Office

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