

# LP SERIES-General Purpose

## LP12-2.8 (12V2.8AH)

### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	2.8AH	
Dimensions	Length	132±2mm (5.19 inches)
	Width	33±1mm (1.30 inches)
	Container Height	98±1mm (3.86 inches)
	Total Height (with Terminal)	104±2mm (4.09 inches)
Approx Weight	Approx 1.18 kg (2.60lbs)	
Terminal	T1	
Container Material	ABS	
Rated Capacity	2.80 AH/0.140A	(20hr, 1.80V/cell, 25°C/77°F)
	2.60 AH/0.260A	(10hr, 1.80V/cell, 25°C/77°F)
	2.35 AH/0.470A	(5hr, 1.75V/cell, 25°C/77°F)
	2.06 AH/0.685A	(3hr, 1.75V/cell, 25°C/77°F)
	1.70 AH/1.70A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	42.0A (5s)	
Internal Resistance	Approx 55mΩ	
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 0.84A. 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	5.38	3.75	3.09	2.68	2.15	1.65	1.35	0.826	0.629	0.517	0.439	0.380	0.302	0.251	0.139
1.80V/cell	6.61	4.47	3.58	3.03	2.38	1.80	1.46	0.878	0.662	0.544	0.458	0.397	0.314	0.260	0.140
1.75V/cell	7.83	5.06	3.95	3.30	2.54	1.92	1.53	0.916	0.685	0.561	0.470	0.407	0.322	0.265	0.141
1.70V/cell	8.89	5.58	4.28	3.54	2.67	1.99	1.60	0.953	0.707	0.575	0.482	0.417	0.327	0.270	0.144
1.65V/cell	9.80	6.00	4.52	3.72	2.78	2.07	1.66	0.981	0.725	0.587	0.493	0.425	0.332	0.274	0.146
1.60V/cell	10.3	6.25	4.72	3.84	2.86	2.11	1.70	1.01	0.743	0.601	0.503	0.433	0.339	0.278	0.147

### Constant Power Discharge (Watts/cell) 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	10.1	7.14	5.94	5.19	4.20	3.24	2.66	1.64	1.25	1.03	0.879	0.763	0.608	0.507	0.280
1.80V/cell	12.3	8.43	6.83	5.83	4.61	3.51	2.85	1.73	1.31	1.08	0.911	0.791	0.627	0.522	0.281
1.75V/cell	14.4	9.44	7.47	6.30	4.89	3.71	2.99	1.79	1.35	1.11	0.930	0.806	0.640	0.528	0.282
1.70V/cell	16.2	10.3	8.01	6.71	5.10	3.83	3.09	1.86	1.38	1.13	0.947	0.821	0.646	0.534	0.286
1.65V/cell	17.6	10.9	8.37	6.97	5.27	3.96	3.20	1.90	1.41	1.14	0.964	0.833	0.653	0.539	0.288
1.60V/cell	18.2	11.3	8.62	7.11	5.37	4.00	3.25	1.94	1.43	1.17	0.978	0.845	0.663	0.545	0.289

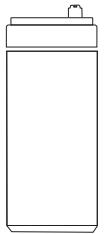
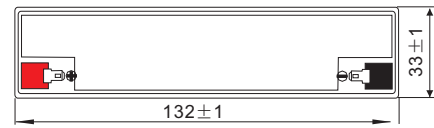
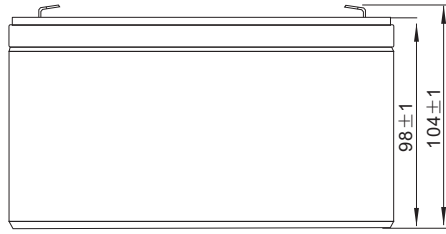
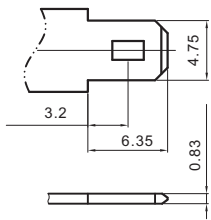
Specifications subject to change without notice.



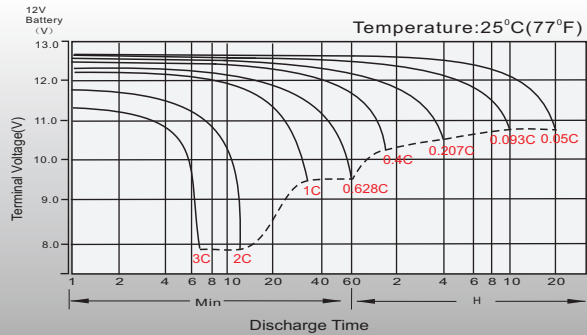
## Dimensions

### T1 Terminal

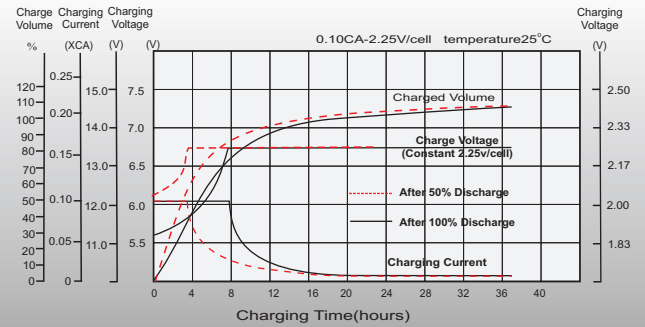
Unit: mm



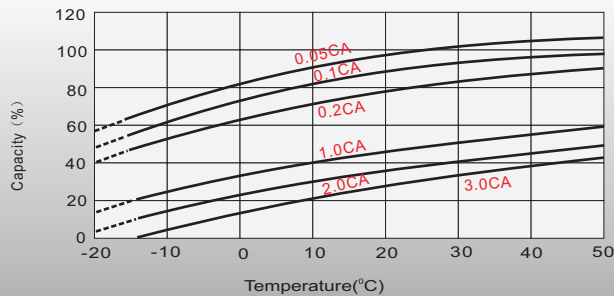
## Discharge Characteristics



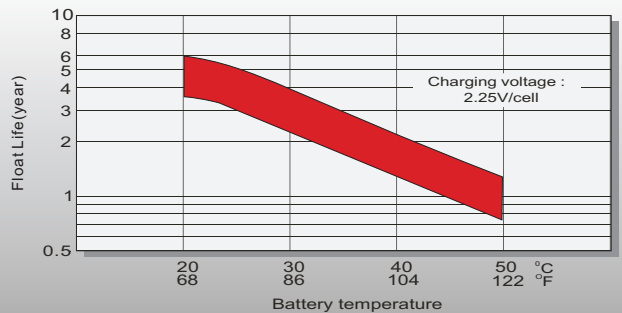
## Float Charging Characteristics



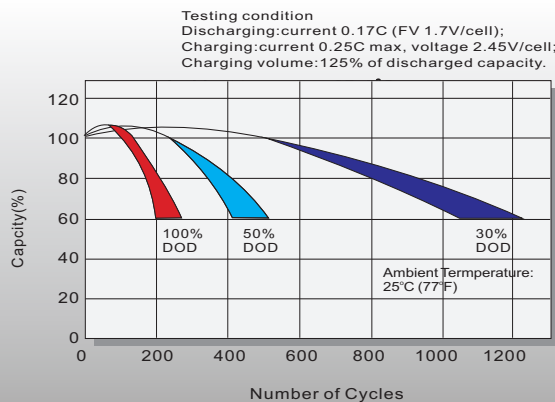
## Temperature Effects in Relation to Battery Capacity



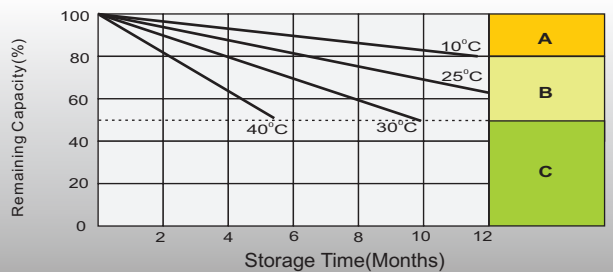
## Effect of Temperature on Long Term Float Life



## 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.)

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

### China sales office:

Add: 5th Floor, Xinbaohui Bldg., Nanhai Blvd.,  
Nanshan, Shenzhen, China. 518052  
Tel: +86-755-86036060 (100 lines)  
Fax: +86-755-26067269  
E-mail: export@leoch.com  
Http://www.leoch.com

### HongKong sales office:

Workshop C, 33/F, TML Tower,  
No. 3 Hoi Shing Road, Tsuen Wan,  
New Territories, Hong Kong  
Tel: +852 35786666  
Fax: +852 21170016  
E-mail: sales.hk@leoch.com

### Singapore sales office:

Add: No. 1 Tech Park Crescent,  
Singapore 638131  
Tel: +65 68636078  
Fax: +65 68636079  
Email sales.sg@leoch.com  
Http://www.leoch.com

### North America sales office:

Add: 19751 Descartes, Unit A,  
Foothill Ranch, CA 92610, USA  
Tel: 949-588-5853  
Fax: 949-588-5966  
E-mail: sales@leoch.us  
Http://www.leoch.com

### Europe sales office:

Add: 9B Wheatstone Court. Waterwells  
Business Park, Gloucester, GL2-2AQ,  
UK United Kingdom  
Tel: +44(0) 1452 729428 / 1452 729696  
Fax: +44 (0)1452-690125  
E-mail: Sales.Europe@leoch.com