

# LP SERIES-General Purpose

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

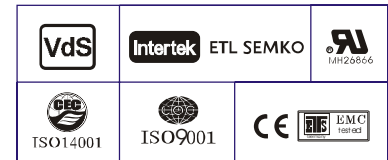
### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	2.2AH	
Dimensions	Length	70±1mm (2.76 inches)
	Width	48±1mm (1.89 inches)
	Container Height	98±1mm (3.86 inches)
	Total Height (with Terminal)	104±2mm (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/0.370A	(5hr, 1.75V/cell, 25°C/77°F)
	1.61 AH/0.538A	(3hr, 1.75V/cell, 25°C/77°F)
	1.34 AH/1.34A	(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 backupper 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	4.22	2.94	2.43	2.11	1.69	1.30	1.06	0.649	0.494	0.406	0.345	0.299	0.237	0.198	0.109
1.80V/cell	5.19	3.51	2.82	2.38	1.87	1.42	1.14	0.690	0.520	0.427	0.360	0.312	0.246	0.205	0.110
1.75V/cell	6.15	3.97	3.11	2.59	2.00	1.50	1.20	0.719	0.538	0.441	0.370	0.320	0.253	0.209	0.111
1.70V/cell	6.98	4.38	3.36	2.79	2.10	1.56	1.25	0.749	0.556	0.452	0.379	0.327	0.257	0.212	0.113
1.65V/cell	7.70	4.71	3.56	2.92	2.19	1.63	1.31	0.771	0.570	0.461	0.387	0.334	0.261	0.215	0.115
1.60V/cell	8.08	4.91	3.70	3.02	2.25	1.66	1.34	0.795	0.584	0.472	0.395	0.340	0.267	0.219	0.115

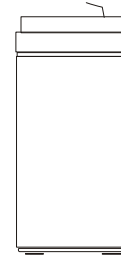
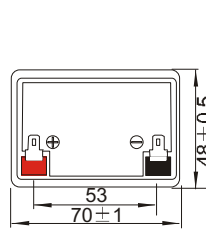
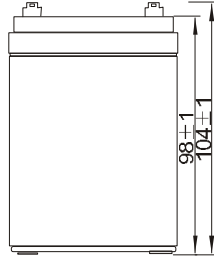
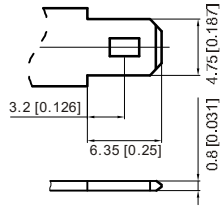
### Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	7.97	5.61	4.67	4.08	3.30	2.55	2.09	1.29	0.983	0.811	0.690	0.599	0.478	0.398	0.220
1.80V/cell	9.68	6.63	5.37	4.58	3.62	2.76	2.24	1.36	1.03	0.847	0.716	0.622	0.493	0.410	0.221
1.75V/cell	11.3	7.42	5.87	4.95	3.84	2.92	2.35	1.41	1.06	0.868	0.731	0.633	0.503	0.415	0.222
1.70V/cell	12.7	8.10	6.29	5.27	4.01	3.01	2.43	1.46	1.09	0.885	0.744	0.645	0.507	0.420	0.224
1.65V/cell	13.8	8.60	6.58	5.48	4.14	3.11	2.52	1.49	1.11	0.899	0.757	0.654	0.513	0.423	0.226
1.60V/cell	14.3	8.84	6.78	5.59	4.22	3.15	2.55	1.53	1.13	0.916	0.768	0.664	0.521	0.428	0.227

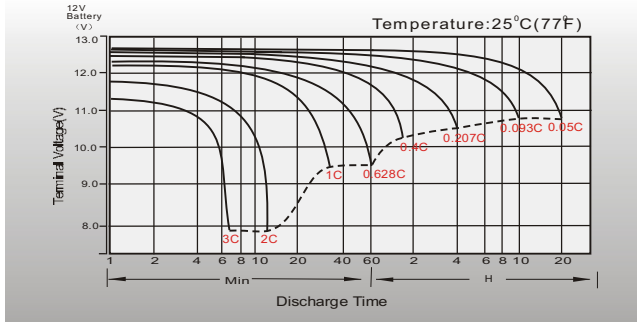
## Dimensions

### T1 Terminal

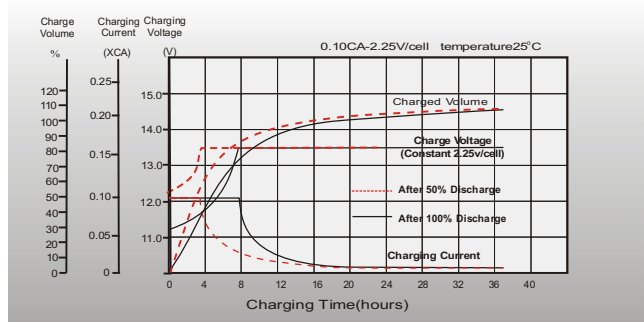
Unit: mm [inches]



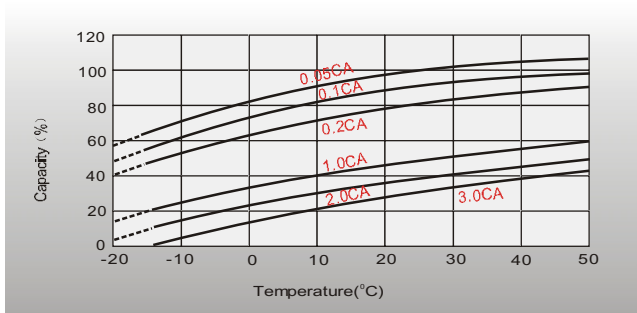
## Discharge Characteristics



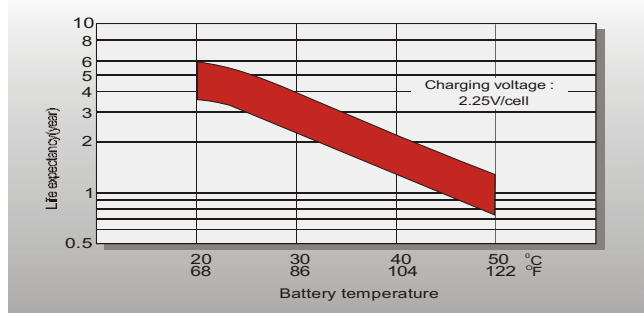
## Float Charging Characteristics



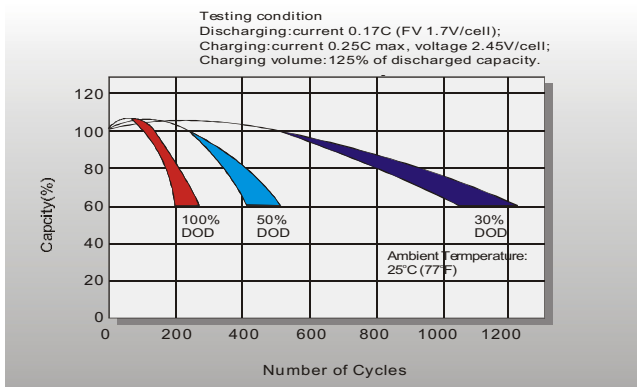
## Temperature Effects in Relation to Battery Capacity



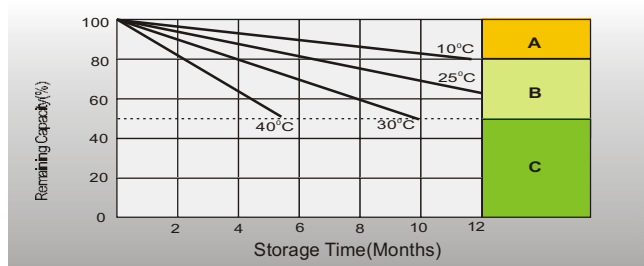
## Effect of Temperature on Long Term Float Life



## 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

### 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

### 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.us

### Europe sales office:

Add: 9B Wheatstone Park, Waterwells  
Business Park, Gloucester, GL2 2AQ. UK.  
Tel: +44(0) 01452 729428  
Fax: +44 (0)1452-690125  
E-mail: Sales.Europe@leoch.com

### Singapore sales office:

Add: No. 53, Ubi Avenue 1, #03-21 Paya  
Ubi Industrial Park, Singapore 408934  
Tel: + 65 6841 6629  
E-mail: sales.sg@leoch.com

### HongKong sales office:

Add: Unit 3910, 39/F, Cable TV Tower, No.9  
Hoi Shing Road, Tsuen Wan, N.T.H.K  
Tel: +852 3578 6666  
E-mail: sales.hk@leoch.com