

# LP SERIES-General Purpose

## LP12-40 (12V40AH)

### Specification

Nominal Voltage	12V	
Nominal Capacity(10HR)	40.0AH	
Dimensions	Length	255±3mm (10.04 inches)
	Width	97±2mm (3.82 inches)
	Container Height	203±3mm (7.99 inches)
	Total Height (with Terminal)	203±3mm (7.99 inches)
Approx Weight	Approx 12.5 kg (27.6lbs)	
Terminal	T7	
Container Material	ABS	
Rated Capacity	40.0 AH/2.00A	(20hr, 1.80V/cell, 25°C/77°F)
	38.5AH/3.85A	(10hr, 1.80V/cell, 25°C/77°F)
	33.1 AH/6.62A	(5hr, 1.75V/cell, 25°C/77°F)
	30.0 AH/10.0A	(3hr, 1.75V/cell, 25°C/77°F)
	23.5 AH/23.5A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	480A (5s)	
Internal Resistance	Approx 9mΩ	
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 12.0A. 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

VdS	Intertek ETL SEMKO	UL MH26866
ISO14001	ISO9001	CE ENEC EMC

### 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	65.9	51.7	44.0	36.8	29.2	22.1	18.2	11.5	9.1	7.46	6.01	5.23	4.25	3.63	1.98
1.80V/cell	88.4	66.2	53.2	43.6	34.5	25.8	20.3	12.6	9.8	7.96	6.46	5.62	4.51	3.85	2.00
1.75V/cell	99.6	72.7	58.1	46.8	35.9	26.7	21.3	13.1	10.0	8.14	6.62	5.77	4.59	3.88	2.02
1.70V/cell	109.7	79.2	62.0	49.2	37.3	27.8	21.9	13.6	10.3	8.36	6.79	5.88	4.65	3.92	2.06
1.65V/cell	121.0	85.5	66.0	52.3	39.3	28.5	22.7	13.9	10.8	8.64	6.98	6.02	4.72	4.00	2.09
1.60V/cell	133.5	92.8	70.5	55.7	41.5	29.7	23.5	14.4	11.1	8.91	7.21	6.15	4.77	4.05	2.10

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

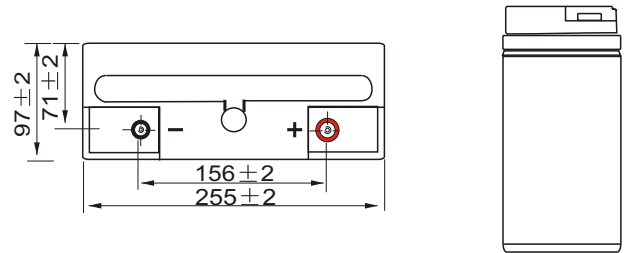
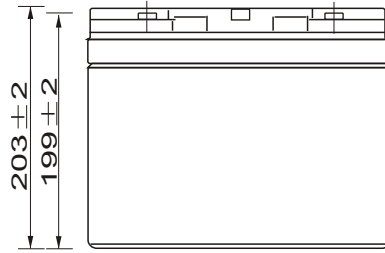
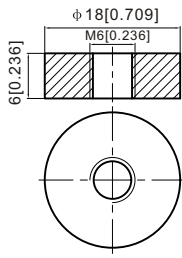
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	120.4	95.6	82.1	69.4	55.8	42.6	35.0	22.4	17.8	14.62	11.83	10.29	8.39	7.18	3.92
1.80V/cell	159.8	120.7	97.9	80.9	64.8	49.1	38.9	24.3	19.0	15.48	12.60	10.96	8.88	7.60	3.95
1.75V/cell	176.3	130.5	105.6	86.2	66.7	50.5	40.6	25.1	19.3	15.77	12.88	11.25	9.00	7.66	3.99
1.70V/cell	188.8	139.0	111.2	89.8	69.0	52.3	41.7	26.1	19.8	16.15	13.17	11.44	9.13	7.74	4.07
1.65V/cell	205.3	148.7	117.3	94.7	72.2	53.2	42.8	26.6	20.6	16.63	13.46	11.73	9.24	7.88	4.12
1.60V/cell	221.2	157.7	123.4	99.8	75.8	55.1	44.1	27.4	21.2	17.12	13.94	11.92	9.32	7.95	4.13



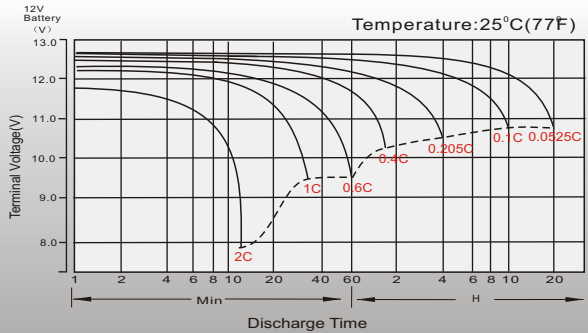
# Dimensions

## T7 Terminal

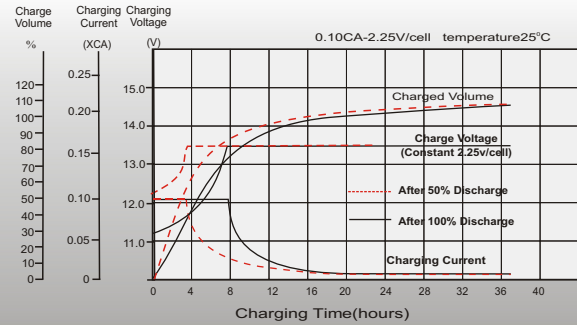
Unit: mm [inches]



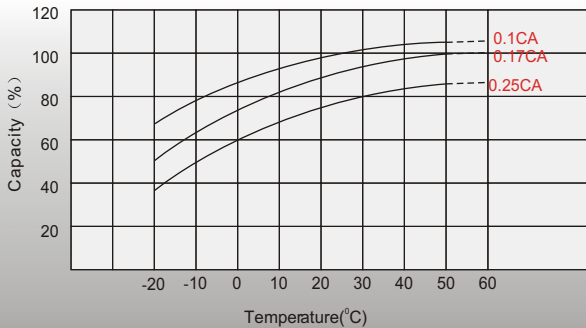
## Discharge Characteristics



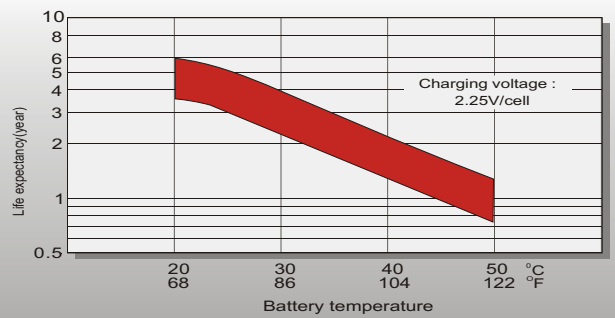
## Float Charging Characteristics



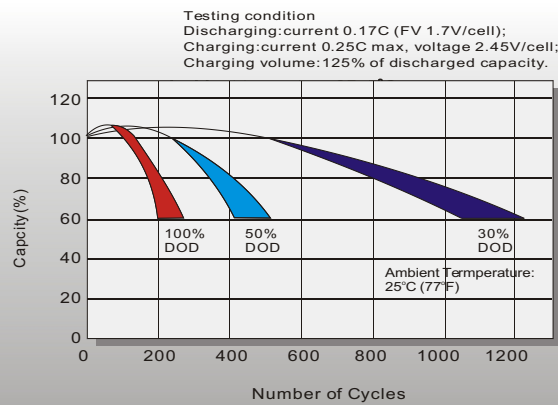
## Temperature Effects in Relation to Battery Capacity



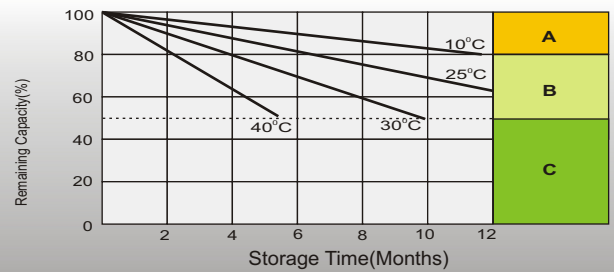
## Effect of Temperature on Long Term Float Life



## 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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