



# LP Series-General Purpose LP12-1.9(12V1.9Ah)

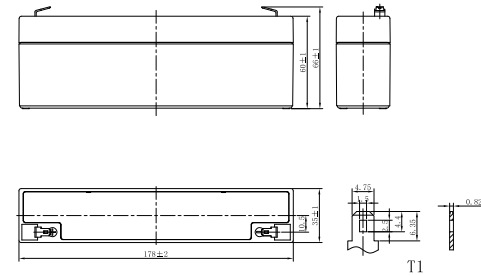


## Specifications

Rated Voltage	12V	
Nominal Capacity	1.9Ah	(C <sub>20</sub> , 1.75V/cell)
Dimension	Length	178±2mm (7.00 inches)
	Width	35±1mm (1.38 inches)
	Container Height	60±1mm (2.36 inches)
	Total Height	66±1mm (2.60 inches)
Approx Weight	0.85 Kg (1.87 lbs)	
Terminal	T1	
Container Material	ABS	
Rated Capacity (25°C)	1.90 Ah	(20hr, 0.095A, 1.75V/cell)
	1.80 Ah	(10hr, 0.180A, 1.75V/cell)
	1.68 Ah	(5hr, 0.335A, 1.75V/cell)
	1.47 Ah	(3hr, 0.490A, 1.75V/cell)
	1.22 Ah	(1hr, 1.22A, 1.60V/cell)
Max. Discharge Current	29A (5s)	
Internal Resistance (25°C)	Approx 85mΩ	
Operating Temp. Range	Discharge	-15 ~ 50°C (5 ~ 122°F)
	Charge	-20 ~ 40°C (-4 ~ 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 0.57A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
	Initial Charging Current less than 0.57A. Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Effect of temp. to Capacity	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	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.	



## Layout



## Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	5.30	3.31	2.71	2.18	1.62	1.21	1.10	0.813	0.648	0.474	0.383	0.326	0.279	0.220	0.176	0.093
1.80V/cell	5.70	3.51	2.84	2.26	1.67	1.24	1.13	0.830	0.660	0.482	0.389	0.331	0.284	0.223	0.178	0.094
1.75V/cell	6.01	3.65	2.94	2.33	1.71	1.27	1.15	0.846	0.672	0.490	0.394	0.335	0.287	0.226	0.180	0.095
1.70V/cell	6.29	3.80	3.04	2.39	1.75	1.30	1.17	0.860	0.682	0.497	0.400	0.340	0.290	0.228	0.182	0.096
1.67V/cell	6.51	3.91	3.11	2.44	1.78	1.32	1.19	0.871	0.690	0.502	0.403	0.343	0.293	0.230	0.183	0.097
1.60V/cell	6.91	4.07	3.22	2.51	1.83	1.35	1.22	0.890	0.704	0.511	0.411	0.348	0.297	0.233	0.185	0.098

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

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	10.0	6.31	5.19	4.19	3.12	2.34	2.15	1.59	1.27	0.932	0.755	0.644	0.553	0.436	0.349	0.186
1.80V/cell	10.7	6.64	5.41	4.33	3.21	2.40	2.19	1.62	1.29	0.946	0.765	0.653	0.561	0.442	0.353	0.188
1.75V/cell	11.1	6.86	5.56	4.43	3.27	2.44	2.23	1.64	1.31	0.958	0.774	0.660	0.566	0.447	0.356	0.190
1.70V/cell	11.5	7.08	5.71	4.53	3.34	2.49	2.26	1.67	1.33	0.971	0.783	0.668	0.572	0.451	0.360	0.192
1.67V/cell	11.8	7.24	5.83	4.62	3.39	2.52	2.29	1.68	1.34	0.979	0.790	0.673	0.577	0.454	0.362	0.193
1.60V/cell	12.3	7.45	5.99	4.73	3.47	2.57	2.33	1.71	1.36	0.994	0.802	0.682	0.584	0.460	0.367	0.195



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## Applications

- All purpose
- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system

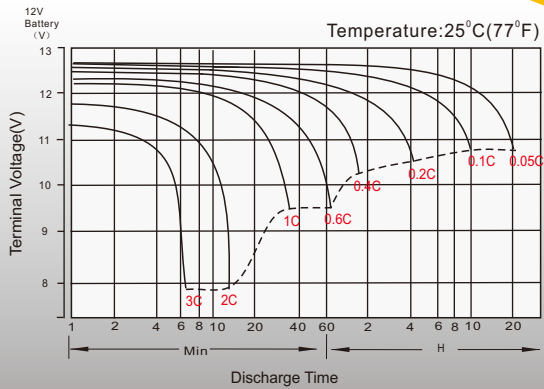
## General Features

- 5 years design life(25°C)
- Special exhaust structure and sealing technology, safe and reliable, flexible installation, convenient maintenance
- PbCaSn alloy for plate grids: less gassing, less self-discharging
- High quality AGM separator: extend cycle life and prevent micro short circuit
- High purity raw material: ensure low self discharge rate

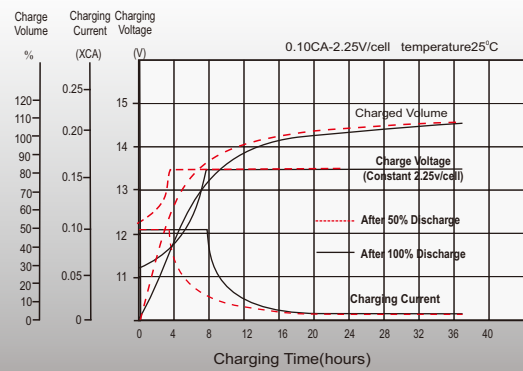
## Standards

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Certified
- Manufactured in Leoch®IATF 16949, ISO45001, ISO 9001 and ISO 14001 certified production facilities

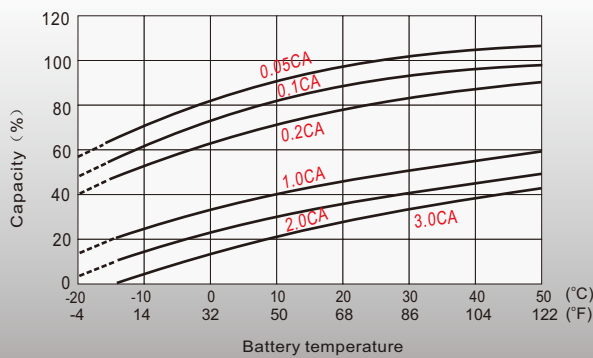
## Discharge Characteristics



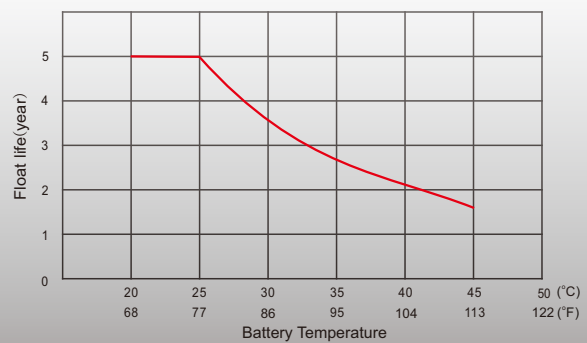
## Float Charging Characteristics



## Temperature Effects in Relation to Battery Capacity



## Effect of Temperature on Long Term Float Life



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