

## UP18-12



Specification		
Nominal Voltage	12V	
Nominal Capacity (10HR)	18.0AH	
Dimension	Length	181.5±1mm (7.14 inches)
	Width	77±1mm (3.03 inches)
	Container Height	167.5±1mm (6.59 inches)
	Total Height (with Terminal)	167.5±1mm (6.59 inches)
Approx Weight	Approx 5.7 Kg (12.57 lbs)	
Terminal	T12	
Container Material	ABS	
Rated Capacity	19.08 AH/0.954A	(20hr, 1.80V/cell, 25°C/77°F)
	18.00 AH/1.80A	(10hr, 1.80V/cell, 25°C/77°F)
	15.62 AH/3.12A	(5hr, 1.75V/cell, 25°C/77°F)
	14.22 AH/4.74A	(3hr, 1.75V/cell, 25°C/77°F)
	11.07 AH/11.07A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	270A (5s)	
Internal Resistance	Approx 16.0mΩ	
Operating Temperature Range	Discharge:	-15~50°C (5~122°F)
	Change :	0~40°C (32~104°F)
	Storage :	-15~40°C (5~104°F)
Nominal Operating Temperature Range	25±3°C (77±5°F)	
Cycle Use	Initial Charging Current less than 5.4A.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	Batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required.	

Constant Current Discharge (Amperes) at 25°C (77°F)														
F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	23.2	19.4	16.5	13.5	10.2	8.56	5.46	4.33	3.50	2.83	2.49	1.99	1.70	0.945
1.80V/cell	29.7	23.4	19.5	15.9	11.9	9.58	5.96	4.65	3.74	3.04	2.67	2.11	1.80	0.954
1.75V/cell	32.6	25.6	21.0	16.5	12.3	10.0	6.18	4.74	3.83	3.12	2.74	2.15	1.82	0.963
1.70V/cell	35.5	27.3	22.1	17.2	12.8	10.3	6.42	4.87	3.93	3.20	2.80	2.18	1.84	0.981
1.65V/cell	38.3	29.0	23.4	18.1	13.1	10.7	6.60	5.08	4.06	3.29	2.86	2.21	1.87	0.994
1.60V/cell	41.6	31.0	25.0	19.2	13.7	11.1	6.83	5.23	4.19	3.40	2.92	2.23	1.89	0.999

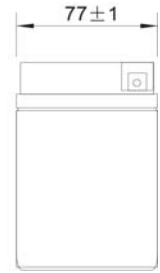
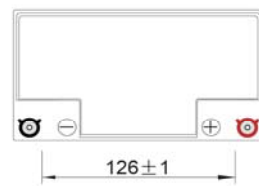
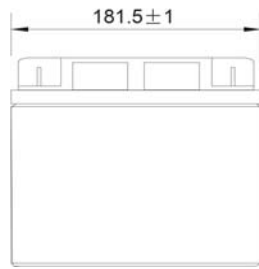
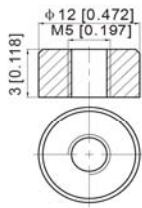
Constant Power Discharge (Watts) at 25°C (77°F)														
F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	43.7	36.8	31.7	26.2	20.0	16.8	10.8	8.58	6.98	5.65	4.97	4.00	3.42	1.91
1.80V/cell	55.2	43.9	36.9	30.4	23.0	18.7	11.7	9.18	7.41	6.04	5.32	4.23	3.62	1.92
1.75V/cell	59.7	47.4	39.4	31.3	23.7	19.5	12.1	9.32	7.56	6.18	5.44	4.29	3.65	1.94
1.70V/cell	63.6	49.9	41.1	32.4	24.5	20.1	12.5	9.56	7.73	6.33	5.55	4.35	3.69	1.97
1.65V/cell	68.0	52.7	43.3	33.9	24.9	20.6	12.8	9.92	7.97	6.48	5.65	4.41	3.76	1.99
1.60V/cell	72.2	55.4	45.6	35.6	25.9	21.2	13.2	10.2	8.20	6.68	5.76	4.44	3.79	2.00



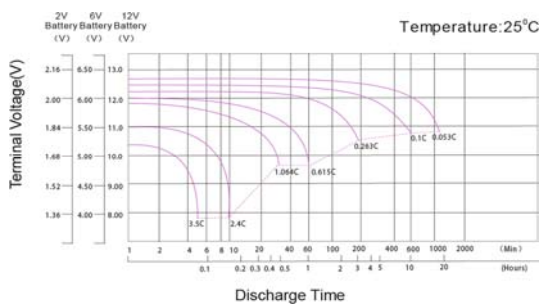
**UP18-12**

**Dimensions**

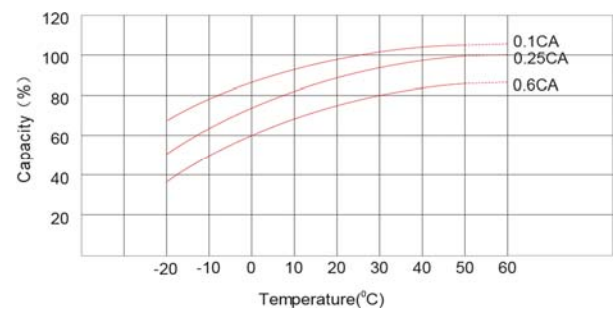
■ T12 Terminal  
Unit: mm [inches]



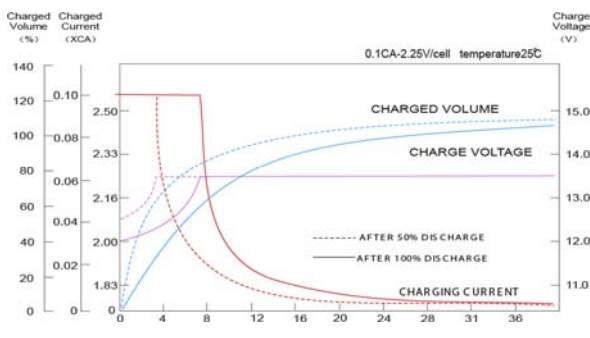
**Discharge Characteristics**



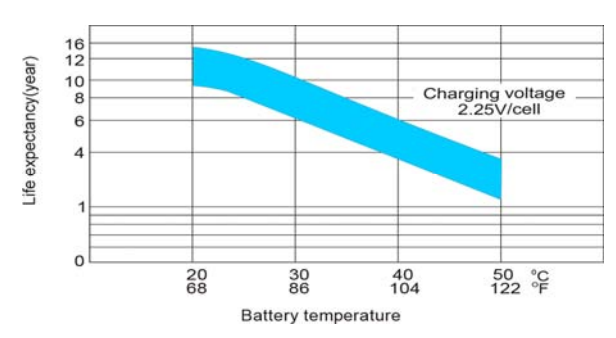
**Temperature Effects in Relation to Battery Capacity**



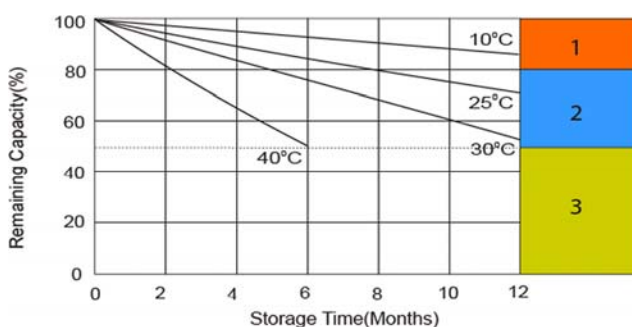
**Float Charging Characteristics**



**Effect of Temperature on Long Term Float Life**



**Self Discharge Characteristics**



- 1** No supplementary charge required  
(Carry out supplementary charge before use if 100% capacity is required.)
- 2** 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 20hours at limited current 0.25CA and constant voltage 2.45V/cell.  
3. Charged for 8-10hours at limited current 0.05CA.
- 3** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.



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