

### UP9.0-12



Specification		
Nominal Voltage	12V	
Nominal Capacity (20HR)	9.0AH	
Dimension	Length	151±1mm (5.95 inches)
	Width	65±1mm (2.56 inches)
	Container Height	95±1mm (3.74 inches)
	Total Height (with Terminal)	101±1mm (3.98 inches)
Approx Weight	Approx 2.66 kg (5.87lbs)	
Terminal	T1 / T2	
Container Material	ABS	
Rated Capacity	9.00 AH/0.450A	(20hr, 1.80V/cell, 25°C/77°F)
	8.31 AH/0.831A	(10hr, 1.80V/cell, 25°C/77°F)
	7.55 AH/1.51A	(5hr, 1.75V/cell, 25°C/77°F)
	6.84 AH/2.28A	(3hr, 1.75V/cell, 25°C/77°F)
	6.24 AH/6.24A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	135A (5s)	
Internal Resistance	Approx 17mΩ	
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 2.70A.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	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	30.8	21.5	16.1	13.1	10.1	7.24	5.65	3.12	2.19	1.72	1.44	1.25	0.98	0.812	0.446
1.80V/cell	34.3	23.2	17.1	13.9	10.5	7.42	5.80	3.18	2.23	1.76	1.47	1.28	1.00	0.831	0.450
1.75V/cell	37.9	24.8	18.0	14.5	10.8	7.61	5.93	3.24	2.28	1.80	1.51	1.30	1.03	0.843	0.455
1.70V/cell	41.7	26.3	18.6	15.0	11.1	7.77	6.02	3.30	2.32	1.83	1.54	1.33	1.05	0.858	0.463
1.65V/cell	43.9	27.4	19.4	15.6	11.3	7.95	6.13	3.35	2.36	1.87	1.57	1.36	1.06	0.874	0.469
1.60V/cell	47.0	28.5	20.2	16.3	11.7	8.08	6.24	3.40	2.40	1.91	1.60	1.39	1.08	0.887	0.472

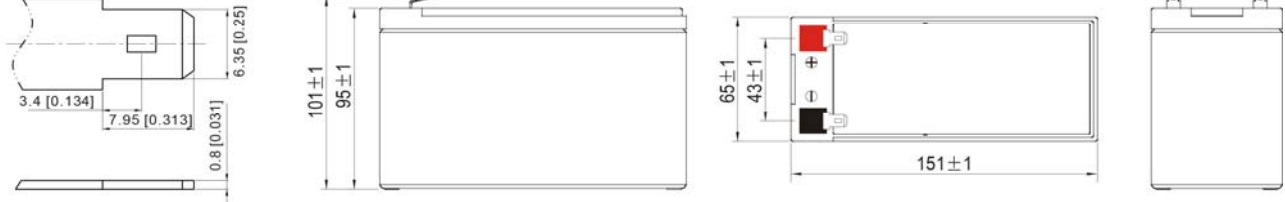
Constant Power Discharge (Watts) at 25°C (77°F)															
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	57.5	40.3	30.2	24.7	19.2	13.9	10.9	6.05	4.27	3.36	2.83	2.45	1.93	1.61	0.883
1.80V/cell	62.0	42.6	31.6	26.0	19.8	14.1	11.1	6.13	4.32	3.42	2.87	2.50	1.98	1.64	0.890
1.75V/cell	67.8	45.0	33.0	26.9	20.2	14.4	11.3	6.22	4.39	3.49	2.93	2.54	2.01	1.66	0.898
1.70V/cell	73.6	47.1	33.7	27.7	20.7	14.6	11.5	6.32	4.47	3.55	2.98	2.59	2.05	1.69	0.913
1.65V/cell	76.4	48.3	34.8	28.5	21.0	14.9	11.6	6.40	4.54	3.59	3.04	2.64	2.08	1.72	0.925
1.60V/cell	80.3	49.6	35.6	29.2	21.3	15.0	11.7	6.46	4.59	3.66	3.09	2.69	2.11	1.74	0.929



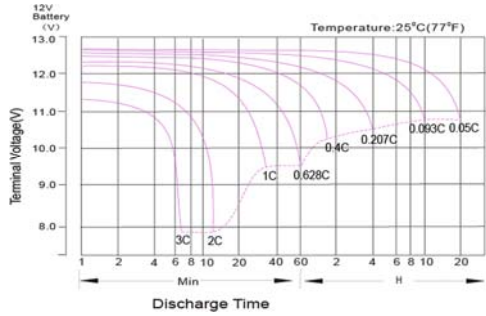
**UP9.0-12**

**Dimensions**

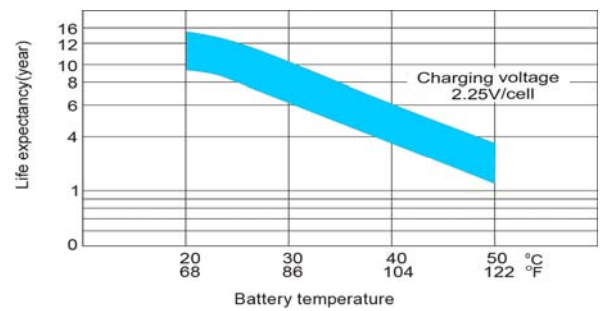
**T2 Terminal**  
Unit: mm [inches]



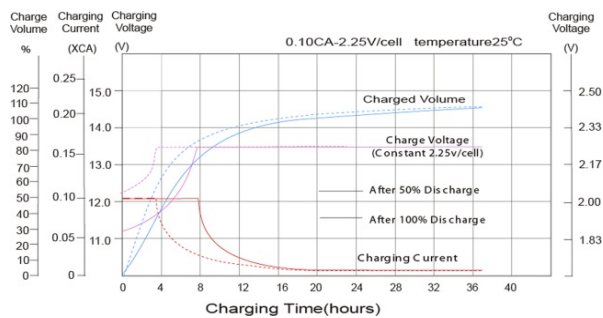
**Discharge Characteristics**



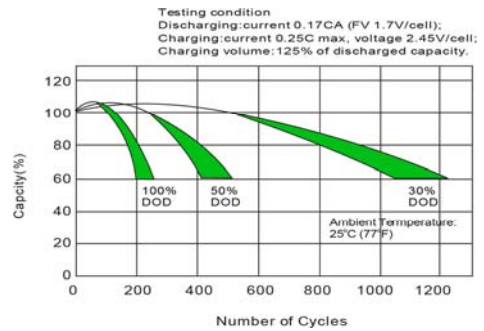
**Effect of Temperature on Long Term Float Life**



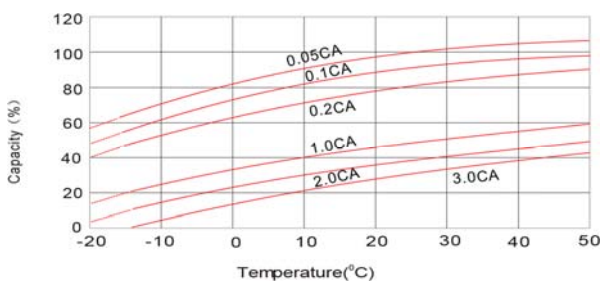
**Float Charging Characteristics**



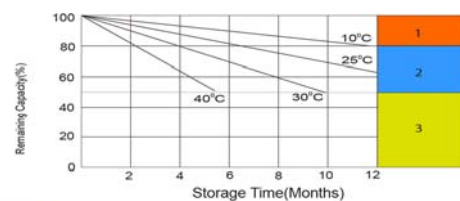
**Cycle Life in Relation to Depth of Discharge**



**Temperature Effects in Relation to Battery Capacity**



**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 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.  
 3. Charged for 8-10 hours 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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