

## UP3.5-4



Specification		
Nominal Voltage	4V	
Nominal Capacity (20HR)	3.5AH	
Dimension	Length	90±1mm (3.54 inches)
	Width	34±1mm (1.34 inches)
	Container Height	59±1mm (2.32 inches)
	Total Height (with Terminal)	65±1mm (2.56 inches)
	Approx Weight	Approx 0.42 kg (0.93lbs)
Terminal	T1	
Container Material	ABS	
Rated Capacity	3.50 AH/0.175A	(20hr, 1.80V/cell, 25°C/77°F)
	3.26 AH/0.326A	(10hr, 1.80V/cell, 25°C/77°F)
	3.00 AH/0.60A	(5hr, 1.75V/cell, 25°C/77°F)
	2.67 AH/0.89A	(3hr, 1.75V/cell, 25°C/77°F)
	2.20 AH/2.20A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	52.5A (5s)	
Internal Resistance	Approx 14mΩ	
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 1.05A. Voltage. 4.8V~5.0V at 25°C (77°F) Temp. Coefficient -10mV/°C	
Standby Use	No limit on Initial Charging Current Voltage. 4.5V~4.6V at 25°C (77°F) Temp. Coefficient -6mV/°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	6.67	5.12	4.24	3.67	2.83	2.09	1.76	1.04	0.81	0.66	0.54	0.47	0.378	0.316	0.173
1.80V/cell	8.90	6.54	5.12	4.33	3.34	2.43	1.97	1.14	0.88	0.71	0.58	0.50	0.401	0.326	0.175
1.75V/cell	10.1	7.19	5.6	4.66	3.47	2.52	2.06	1.18	0.89	0.72	0.60	0.52	0.408	0.334	0.177
1.70V/cell	11.1	7.83	5.97	4.9	3.61	2.62	2.13	1.21	0.92	0.74	0.61	0.53	0.413	0.341	0.180
1.65V/cell	12.2	8.45	6.35	5.2	3.81	2.69	2.18	1.23	0.96	0.77	0.63	0.54	0.42	0.348	0.182
1.60V/cell	13.5	9.20	6.79	5.54	4.03	2.80	2.20	1.28	0.99	0.79	0.65	0.55	0.424	0.352	0.183

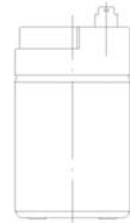
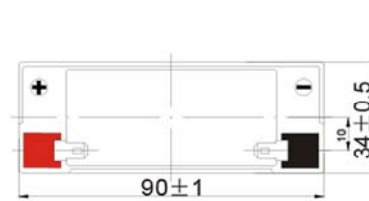
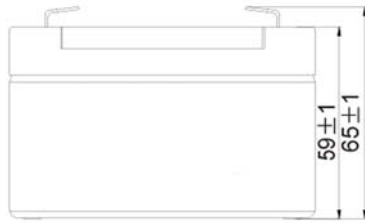
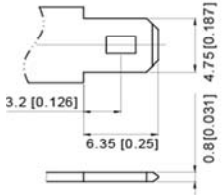
Constant Power Discharge (Watts) at 25°C (77°F)															
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	12.2	9.50	7.91	6.91	5.40	4.01	3.40	2.02	1.59	1.29	1.06	0.92	0.746	0.625	0.343
1.80V/cell	16.2	11.9	9.40	8.05	6.28	4.63	3.78	2.19	1.70	1.37	1.13	0.98	0.789	0.643	0.346
1.75V/cell	17.9	12.9	10.2	8.58	6.46	4.76	3.94	2.26	1.72	1.40	1.16	1.01	0.801	0.660	0.349
1.70V/cell	19.1	13.8	10.7	8.90	6.69	4.93	4.05	2.32	1.77	1.44	1.18	1.03	0.811	0.672	0.355
1.65V/cell	20.8	14.7	11.3	9.40	7.00	5.01	4.11	2.34	1.84	1.48	1.21	1.05	0.822	0.685	0.360
1.60V/cell	22.4	15.6	11.9	9.90	7.34	5.19	4.13	2.42	1.88	1.52	1.25	1.07	0.828	0.691	0.361



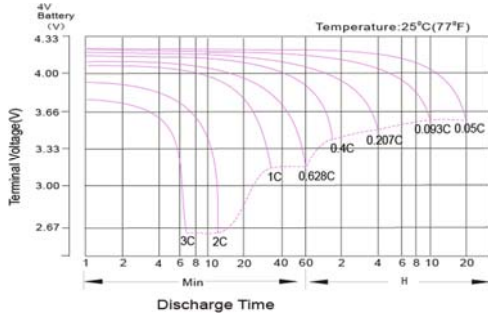
**UP3.5-4**

**Dimensions**

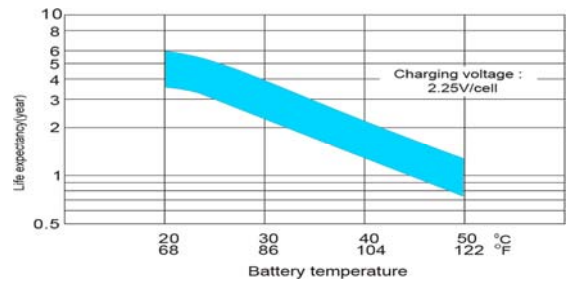
**T1 Terminal**  
Unit: mm [inches]



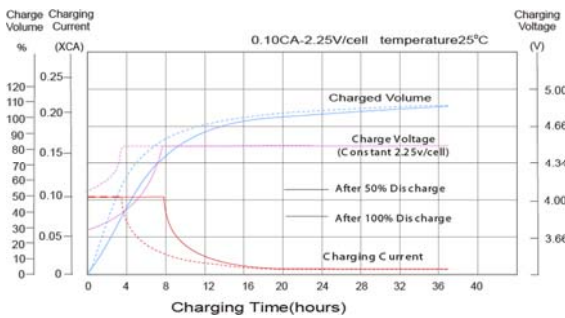
**Discharge Characteristics**



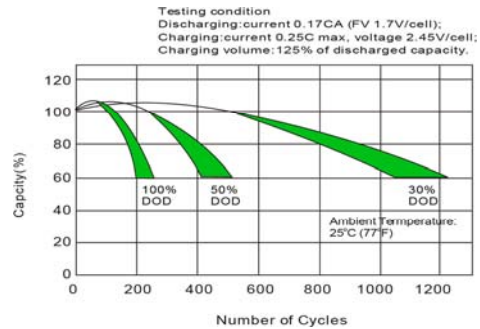
**Effect of Temperature on Long Term Float Life**



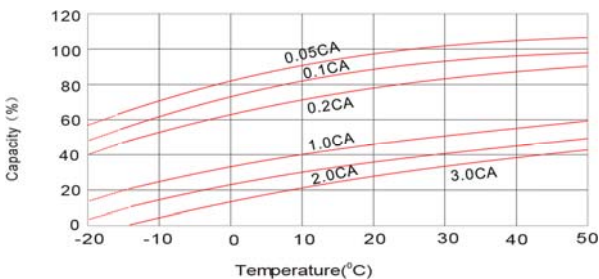
**Float Charging Characteristics**



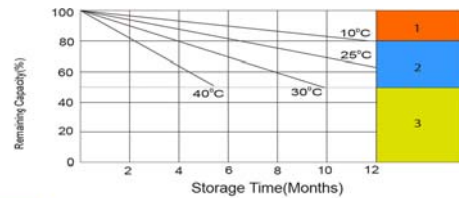
**Cycle Life in Relation to Depth of Discharge**



**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.

