

## UP-HR20-12



Specification	
Nominal Voltage	12V
Watts(15min Rate)	82.7 Watte at 1.67V/cell
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 6.6 kg (14.6lbs)
Terminal	T3 / T12
Container Material	ABS
Rated Capacity	20.4 AH/2.04A (10hr , 1.80V/cell, 25°C/77°F)
	20.0 AH/2.50A (8hr, 1.80V/cell, 25°C/77°F)
	18.5 AH/3.71A (5hr, 1.75V/cell, 25°C/77°F)
	17.1 AH/5.69A (3hr, 1.75V/cell, 25°C/77°F)
	16.7 AH/16.7A (1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	300A (5s)
Internal Resistance	Approx 15mΩ
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 6.0A.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	Batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required.

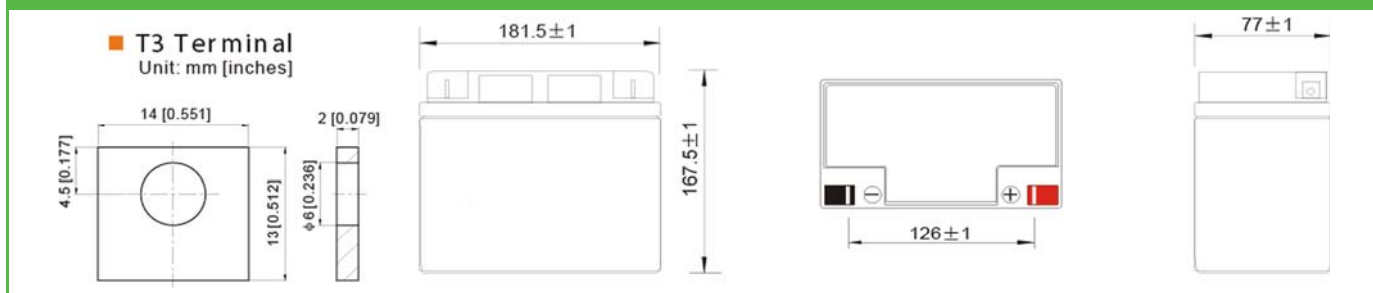
Constant Current Discharge (Amperes) at 25°C (77°F)															
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	55.4	37.3	34.1	30.4	22.7	16.7	13.6	7.36	5.19	4.05	3.48	2.97	2.35	1.93	1.05
1.80V/cell	64.6	42.2	37.4	32.7	24.4	18.2	14.5	7.80	5.53	4.33	3.62	3.15	2.50	2.04	1.06
1.75V/cell	72.9	46.4	40.9	35.2	25.3	18.9	15.1	8.09	5.69	4.45	3.71	3.21	2.54	2.06	1.07
1.70V/cell	80.3	50.6	43.7	37.0	26.3	19.6	15.6	8.41	5.85	4.54	3.80	3.28	2.57	2.09	1.09
1.65V/cell	88.6	54.6	46.5	39.3	27.8	20.1	16.1	8.65	6.10	4.70	3.87	3.35	2.61	2.13	1.10
1.60V/cell	97.8	58.2	48.7	41.9	29.3	21.0	16.7	8.94	6.28	4.85	3.98	3.42	2.64	2.15	1.11

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	101.2	68.9	63.6	57.4	43.3	32.1	26.2	14.3	10.2	8.01	6.93	5.95	4.75	3.93	2.16
1.80V/cell	116.9	77.1	68.9	60.8	45.7	34.7	27.8	15.1	10.8	8.51	7.16	6.28	5.02	4.16	2.17
1.75V/cell	129.1	83.3	74.4	64.8	47.1	35.6	28.9	15.6	11.0	8.70	7.33	6.38	5.10	4.20	2.19
1.70V/cell	138.3	88.8	78.3	67.6	48.8	36.9	29.7	16.1	11.3	8.87	7.48	6.50	5.16	4.24	2.23
1.65V/cell	150.4	95.0	82.7	71.3	51.0	37.5	30.5	16.5	11.8	9.15	7.61	6.62	5.23	4.32	2.26
1.60V/cell	162.1	98.9	85.3	75.1	53.5	38.9	31.4	17.0	12.1	9.40	7.79	6.75	5.27	4.35	2.27

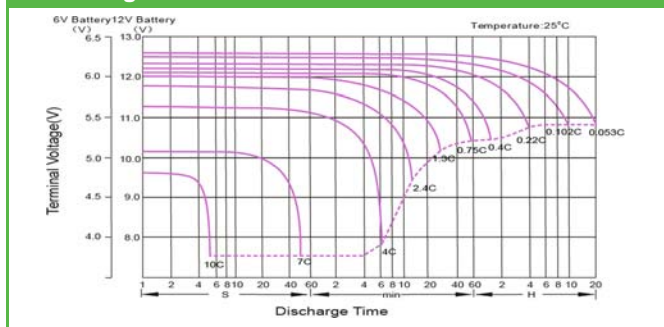


**UP-HR20-12**

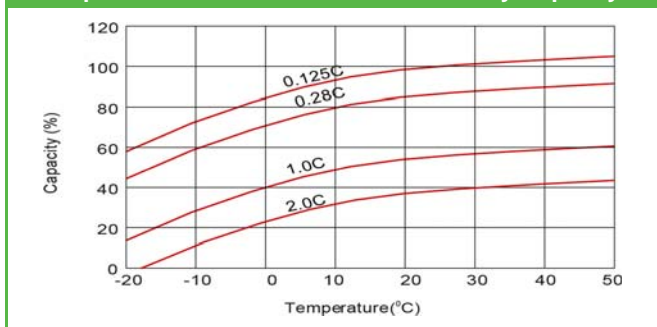
**Dimensions**



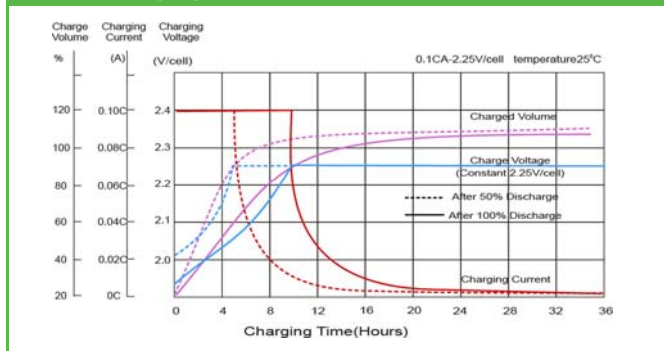
**Discharge Characteristics**



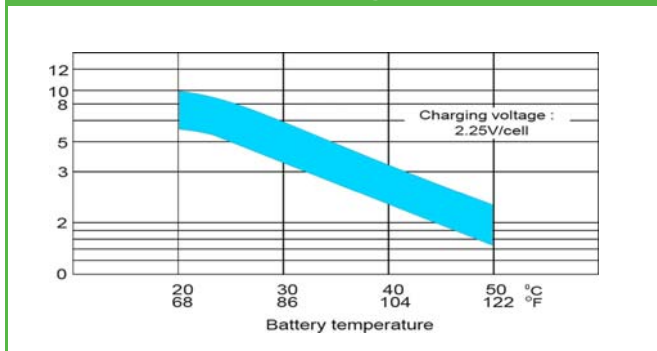
**Temperature Effects in Relation to Battery Capacity**



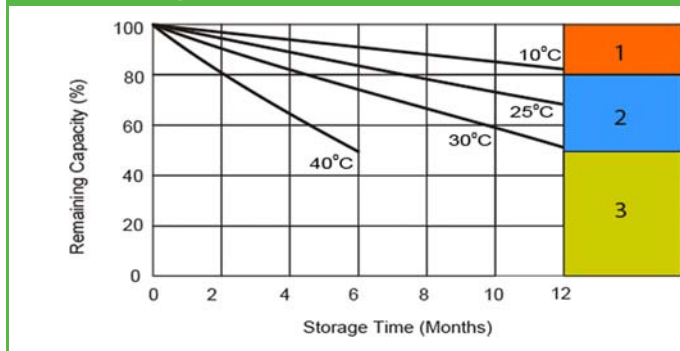
**Float Charging Characteristics**



**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 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.

