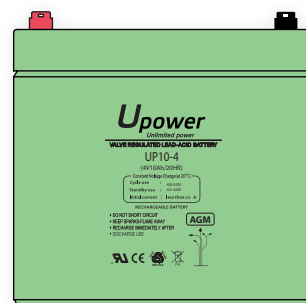


# UP Series UP10-4

GENERAL PURPOSE AGM



## Main Features

- High Reliability**

Extensive control processes, from raw materials to delivery to the end customer, within the international quality standards implemented in the company.

- Valve Regulated Lead Acid batteries**

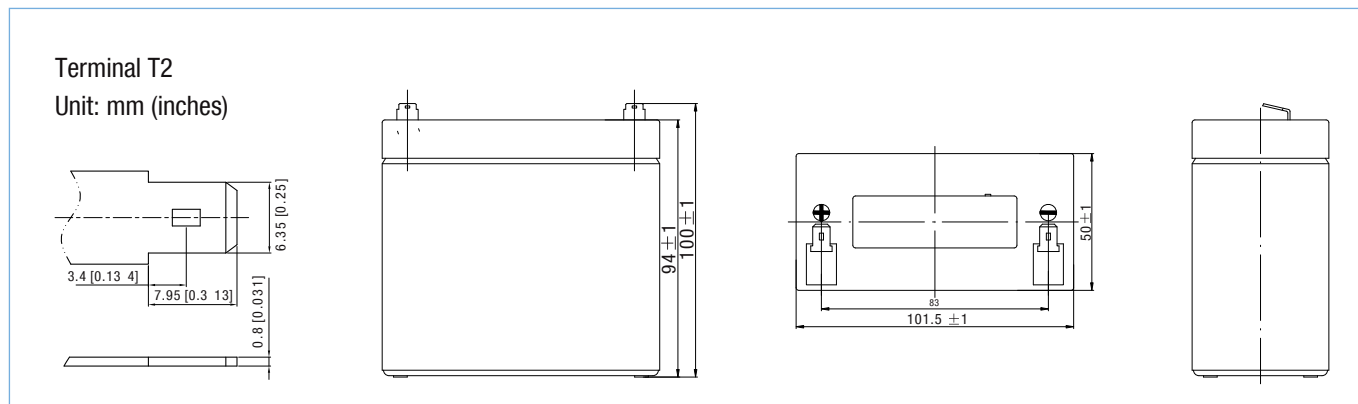
Designed for better gas recombination, with minimal hydrogen losses, aid to inner pressure regulation, increasing its performance and security.

## Technical Specifications

Nominal Voltage (V)	4
Nominal Capacity (20 Hr)	10.0 Ah
Dimensions	Length: 101.5 ± 2mm (4.0 inches)
	Width: 50 ± 1mm (1.97 inches)
	Height: 94 ± 1mm (3.70 inches)
	Total Height (+ terminal): 100 ± 1mm (3.94 inches)
Approx. Weight	1.14 Kg (2.51 lbs)
Terminal	T2
Container Material	ABS
Rated Capacity	10.0 Ah / 0.50 A (20hr, 1.80V/cell, 25°C/77°F)
	9.30 Ah / 0.93 A (10hr, 1.80V/cell, 25°C/77°F)
	8.50 Ah / 1.70 A (5hr, 1.75V/cell, 25°C/77°F)
	7.65 Ah / 2.55 A (3hr, 1.75V/cell, 25°C/77°F)
	6.28 Ah / 6.28 A (1hr, 1.60V/cell, 25°C/77°F)
Maximum Discharge Current	150 A (5s)
Internal Resistance	Approx. 9 mΩ
Operating Temperature Range	Discharge: -15 ~ 50°C (5 ~ 122°F)
	Charge: 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 3.0 A Voltage. 4.8~5.0V at 25°C (77°F) Temp. Coefficient -10mV/°C
Standby Use	No limit on Initial Charging Current Voltage. 4.5~4.6V 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.



## Battery Dimensions



## Battery Discharge Tables

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

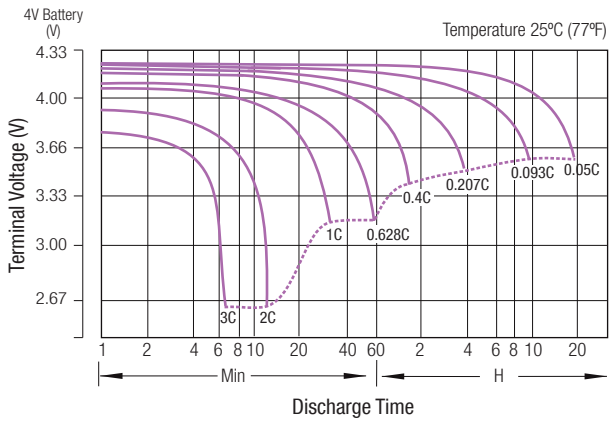
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	19.0	14.6	12.1	10.5	8.10	5.97	5.03	2.97	2.33	1.89	1.54	1.34	1.080	0.902	0.495
1.80V/cell	25.6	18.7	14.6	12.4	9.56	6.94	5.63	3.25	2.50	2.02	1.66	1.44	1.145	0.930	0.500
1.75V/cell	28.8	20.5	16.0	13.3	9.92	7.20	5.89	3.37	2.55	2.07	1.70	1.48	1.165	0.955	0.505
1.70V/cell	31.7	22.4	17.1	14.0	10.3	7.49	6.08	3.45	2.62	2.12	1.74	1.51	1.181	0.974	0.514
1.65V/cell	35.0	24.2	18.1	14.9	10.9	7.68	6.22	3.50	2.73	2.19	1.79	1.54	1.200	0.994	0.521
1.60V/cell	38.6	26.2	19.4	15.8	11.5	8.00	6.28	3.65	2.82	2.26	1.85	1.57	1.212	1.005	0.524

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

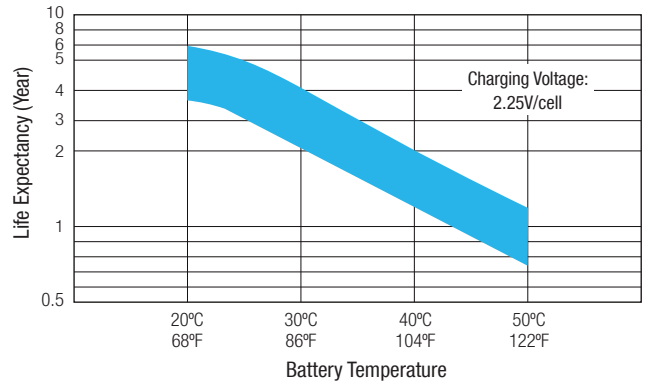
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	34.8	27.0	22.6	19.7	15.4	11.5	9.70	5.78	4.54	3.70	3.03	2.63	2.13	1.79	0.981
1.80V/cell	46.2	34.1	26.9	23.0	17.9	13.2	10.8	6.26	4.85	3.93	3.23	2.81	2.25	1.84	0.989
1.75V/cell	51.0	36.9	29.1	24.5	18.5	13.6	11.3	6.47	4.92	4.00	3.31	2.88	2.29	1.88	0.998
1.70V/cell	54.6	39.3	30.6	25.6	19.1	14.1	11.6	6.62	5.05	4.10	3.38	2.94	2.32	1.92	1.015
1.65V/cell	59.4	42.0	32.3	26.9	20.0	14.3	11.8	6.67	5.24	4.23	3.47	2.99	2.35	1.96	1.027
1.60V/cell	64.0	44.6	34.0	28.4	21.0	14.8	11.8	6.93	5.38	4.35	3.57	3.04	2.37	1.98	1.032



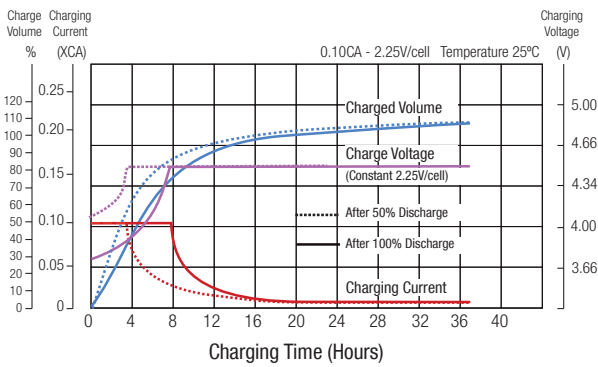
### Discharge Characteristics



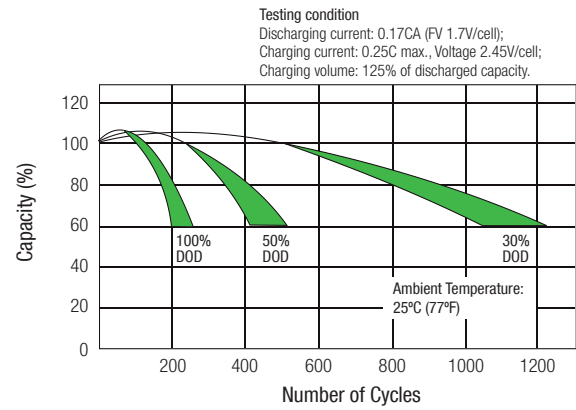
### Effect of Temperature on Long Term Float Life



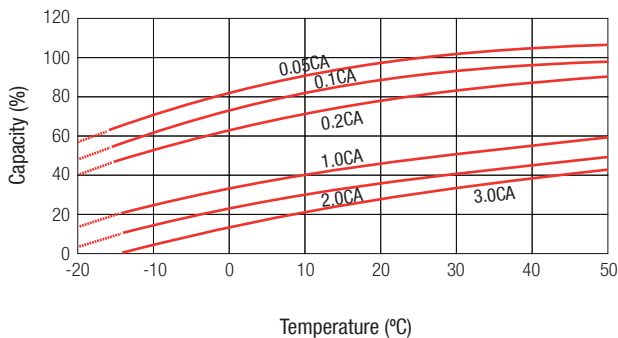
### Float Charging Characteristics



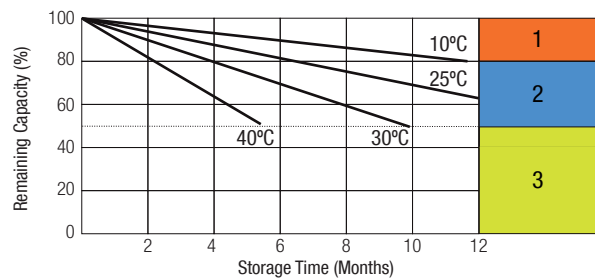
### Cycle Life in Relation to Depth of Discharge



### 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 recharged.

