

 **EXIDE**

**EXIDE**  
*Powersafe*



**SEALED  
MAINTENANCE FREE  
VRLA BATTERIES**

**INDUSTRIAL**



# ADVANTAGE EXIDE



- **Technology** : Manufactured in technical collaboration with M/s Shin-kobe Electric Machinery Co., Japan, makers of world-renowned Hitachi batteries.
- **Experience** : Over 50 years accumulated experience of Research & Development, manufacturing and field operations.
- **Manufacturing Base** : The only Company with multilocal manufacturing units spread across the country and equipped with world's latest and most advanced machineries.
- **Network** : Easy accessibility - with 4 Regional offices, 24 Branch offices, 30 Exide Powercentres and over 500 Industrial dealers spread all over the country. Trained and experienced manpower at each location ensuring immediate service and zero down time.
- **Solution Provider** : Exide offers complete solution regarding equipment selection, battery sizing, optimum room layout, installation, operation and maintenance. The only company in India to offer lead acid batteries from 2.5Ah to 20,400Ah.
- **Eco-friendly Company** : We are an ISO 14001 Certified Company for our eco-friendly manufacturing process. The used batteries are taken back for recycling at approved smelters' premises to avoid environmental damage.
- **Safety Conscious** : Underwriters Laboratories Inc.® USA certification for the products are available on request.
- **R & D Centre** : Our R & D Centre, set up in 1976, is counted among the premier battery research facilities in the world and is recognised by the Department of Scientific & Industrial Research under Ministry of Science & Technology, Govt. of India.



Recognition of our pursuit of quality was achieved when RWTUV of Germany awarded us the ISO 9001.

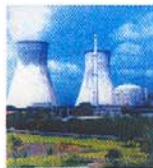
We have also received ISO 14001 Certificate in recognition of our eco-friendly production process.



## Applications



Off-shore Platform



Power Plant



Switchgear operation



Uninterrupted-Power supply



Transmission & Distribution Substation



Telecommunication



Railway signalling



## Technical Features

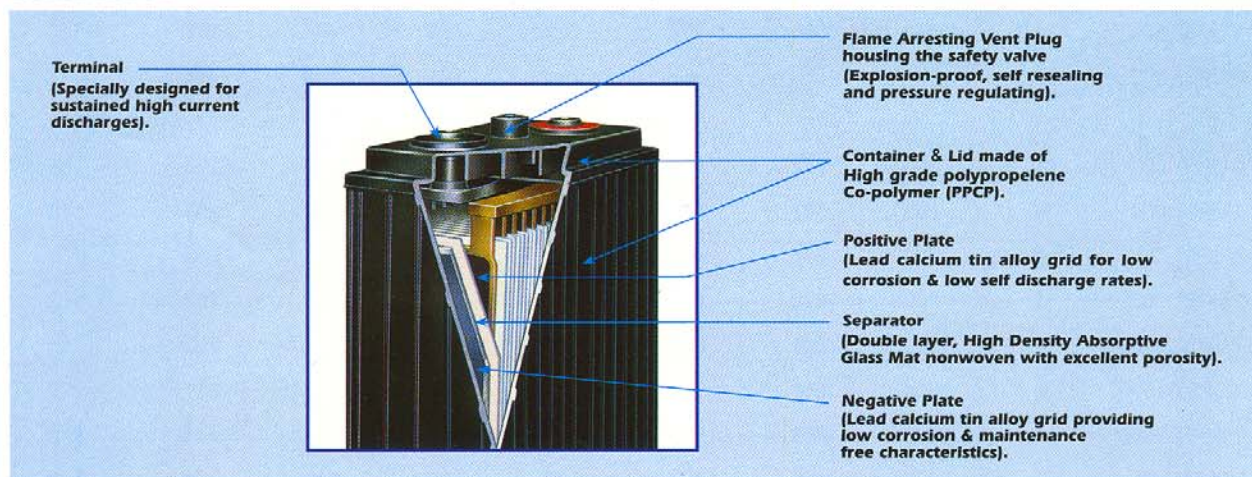
- **Maintenance Free**  
No topping up is required.
- **Enhanced Performance**
  - Computer aided grid design for high power density
  - Excellent deep discharge recovery
  - Better thermal management in the module
  - Resistance to thermal runaway
- **Ready-to-use**  
Supplied in factory charged condition.
- **State-of-the-art technology**
  - Argon arc welding employed
  - Heat sealing checked by Helium Ion Tester
  - Flame arrestor fitted safety valve
- **Eco-friendly**
  - No emission of corrosive fumes or gases under normal operating conditions.
  - Cadmium free
- **Easy handling & no installation constraints**  
Compact, easily transportable and can be used in any orientation without leakage or spillage of electrolyte.
- **Low self discharge.** Antimony - free positive alloy and hence, self-discharge is less than 0.5% per week

- **Saving in floor space**  
Horizontally stackable modules, low foot-print.
- **User friendly**
  - Front access design
  - Easy cell replacement
  - Can be used in any orientation
- **Life Expectancy in float condition**  
20 years at 27°C and under ideal float conditions.
- **Life Expectancy in number of cycles at 27°C**
  - 4000 cycles at 20% DOD
  - 1800 cycles at 50% DOD
  - 1200 cycles at 80%.DOD
- **Allowable Ripple : 5A (rms) per 100 Ah C<sub>10</sub> Capacity during float charge**  
10A (rms) per 100Ah C<sub>10</sub> Capacity during bulk phase of charging
- **Recommended Float Voltages**

AMBIENT TEMP (°C)	RECOMMENDED FLOAT VOLTAGE PER CELL (VOLT)	MAXIMUM CHARGING CURRENT (AMPERE)
-5 to 14	2.27±0.01	0.15C
15 to 24	2.25±0.01	0.15C
25 to 34	2.23±0.01	0.15C
35 to 40	2.20±0.01	0.15C

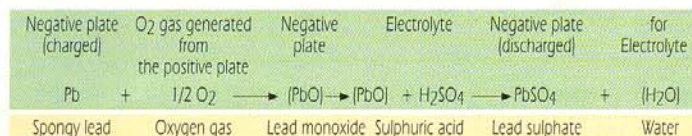
C : Nominal 10 hr. capacity of the battery at 27°C

### Construction

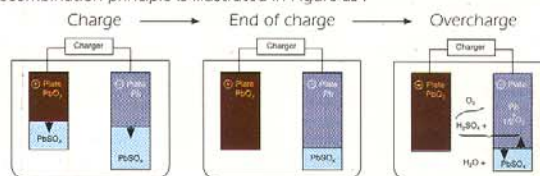


### Recombination Principle

The recombination principle may be expressed as :



Recombination principle is illustrated in Figure as :



### Performance Characteristics Conforming

JIS : C8704 - 2 : 1999

ANSI T1 330 (US specification for Telecom Battery)

IEC 60896 - 21 & 22

TEC Specification No. G/BAT-01/02 MARCH 2000 with Latest Amendment

RDSO Specification No. IRS:S93-96 with Latest Amendment



**Table No. : 1 TECHNICAL SPECIFICATIONS OF UNIT MODULES**

Battery model	Nominal voltage (V)	Rated capacity (Ah)				Dimensions (mm)			Weight (Kg)±5%
		10 hr,1.75 v/cell	5 hr,1.75 v/cell	3 hr,1.70 v/cell	1 Hr, 1.70 v/cell	L +/- 5	D +/- 5	H +/- 5	
5 UPST 80	10	80	75	70	51	978	405	78	38
5 UPST 100	10	100	94	88	64	978	405	78	45
5 UPST 125	10	125	113	105	71	978	405	78	49
6 UPST 80	12	80	75	70	51	650	405	146	44
6 UPST 100	12	100	94	88	64	650	405	146	53
6 UPST 125	12	125	113	105	76	650	405	146	58
3 UPST 165	6	165	155	145	105	700	406	154	43
3 UPST 200	6	200	188	176	127	700	406	154	50
3 UPST 250	6	282	235	220	159	700	406	154	58
4 UPST 300	8	300	282	264	191	824	408	184	97
4 UPST 330	8	330	310	291	210	824	408	184	98
4 UPST 360	8	360	388	407	259	824	408	218	108
4 UPST 400	8	400	376	352	235	824	408	218	117
4 UPST 500	8	500	422	400	290	789	515	255	148
4 UPST 600	8	600	507	480	348	789	515	255	166
2 UPST720	4	720	688	576	418	462	515	363	115
2 UPST 800	4	800	676	641	464	462	515	363	122
2 UPST 1000	4	1000	845	801	580	462	515	363	135
2 UPST 1500	4	1500	1267	1201	870	436	515	511	200
2 UPST 1600	4	1600	1352	1281	928	436	515	511	212
UPST 2000	2	2000	1690	1602	1137	436	515	362	145
UPST 2500	2	2500	2112	2002	1421	436	515	511	179
UPST 3000	2	3000	2535	2403	1705	436	515	511	200
UPST 4000	2	4000	3380	3204	2208	872	515	362	290
UPST5000	2	5000	4225	4005	2755	872	515	511	358
UPST6000	2	6000	5070	4806	3306	872	515	511	424

Note : Batteries of intermediate capacities can be made available on request.



**Table No. : 2 SYSTEM CONFIGURATION AND MAXIMUM OVERALL DIMENSIONS**

Sl. No	TYPE	C10 CAPACITY Ah	VOLTAGE	NO. OF MODULES	NO. OF TIERS	NO. OF STACKS	SYSTEM ARRANGEMENT	MAX. SYSTEM LENGTH mm	MAX. SYSTEM DEPTH mm	MAX. SYSTEM HEIGHT mm	MAX. SYSTEM WEIGHT Kg ± 5%			LAYOUT BLOCK DIAGRAM
											UPST 80	UPST 100	UPST 125	
1	UPST80-125	80-125	48V	4	(4 x1)	1	4T X1S	650	405	652	183	216	238	↑ 4T
2	UPST80-125	80-125	110V	11	(11 x1)	1	11T X1S	978	405	925	427	504	553	↑ 11T
3	UPST80-125	80-125	220V	22	(11x2)	2	11T X1S B-B	978	910	925	854	1008	1107	↑ 11T
4	UPST80-125	80-125	220V	22	(11x2)	2	11T X2S	1956	405	925	854	1008	1107	↑ 11T
5	UPST80-125	80-125	360V	30	(10x3)	3	10T X3S	1950	405	1529	1351	1603	1765	↑ 10T <sup>1</sup>
6	UPST80-125	80-125	408V	34	(12x2)+(10x1)	3	12T X2S + 10T X1S	1950	405	1821	1530	1815	1999	↑ 10T <sup>1</sup> ... ↑ 12T <sup>2</sup> 10T
7	UPST165-250	165-250	48V	8	(8 x1)	1	8T X1S	700	406	1303	350	410	470	↑ 8T
8	UPST165-250	165-250	110V	19	(10x1) + (9x1)	2	10T X1S + 9T X1S	1400	406	1611	806	943	1081	↑ 10T 9T
9	UPST165-250	165-250	110V	19	(10x1) + (9x1)	2	10,9T X1S B-B	700	912	1611	806	943	1081	↑ 10T
10	UPST165-250	165-250	220V	37	(10x1) + (9x3)	4	10T X1S + 9T X3S	2800	406	1611	1604	1879	2154	↑ 10T 9T <sup>1</sup> ... ↑ 9T <sup>3</sup>
11	UPST165-250	165-250	220V	37	(10x1) + (9x3)	4	9T X1S B-B + 10T,9T X1S B-B	1400	912	1611	1604	1879	2154	↑ 9T 10T
12	UPST165-250	165-250	360V	60	(10x6)	6	10T X6S	4200	406	1611	2618	3068	3518	↑ 10T <sup>1</sup> ... ↑ 10T <sup>6</sup>
13	UPST165-250	165-250	360V	60	(10x6)	6	10T X3S B-B	2100	912	1611	2618	3068	3518	↑ 10T <sup>1</sup> ... ↑ 10T <sup>3</sup>
14	UPST165-250	165-250	408V	68	(10x6) + (8x1)	7	10T X6S + 8T X1S	4900	406	1611	2968	3478	3988	↑ 10T <sup>1</sup> ... ↑ 10T <sup>6</sup> 8T
15	UPST165-250	165-250	408V	68	(10x6) + (4 x 2)	8	10T X3S B-B + 4T X1S B-B	2800	912	1611	2973	3483	3993	↑ 10T <sup>1</sup> ... ↑ 10T <sup>3</sup> 4T
16	UPST300-330	300-330	48V	6	(6 x1)	1	6T X1S	824	404	1200	588	588	588	↑ 6T
17	UPST300-330	300-330	110V	14	(7x2)	2	7T X2S	1648	408	1384	1347	1347	1347	↑ 7T <sup>1</sup> 7T <sup>2</sup>
18	UPST300-330	300-330	110V	14	(7x2)	2	7T X1S B-B	824	916	1384	1347	1347	1347	↑ 7T
19	UPST300-330	300-330	220V	28	(7x4)	4	7T X4S	3296	408	1384	2695	2695	2695	↑ 7T <sup>1</sup> ... ↑ 7T <sup>4</sup>
20	UPST300-330	300-330	220V	28	(7x4)	4	7T X2S B-B	1648	916	1384	2695	2695	2695	↑ 7T 7T
21	UPST300-330	300-330	360V	45	(9x5)	5	9T X5S	4120	408	1802	4417	4417	4417	↑ 9T <sup>1</sup> ... ↑ 9T <sup>5</sup>
22	UPST300-330	300-330	408V	51	(9x5) + (6x1)	6	9T X5S + 6T X1S	4944	408	1802	5010	5010	5010	↑ 9T <sup>1</sup> ... ↑ 9T <sup>5</sup> 6T
23	UPST360-400	360-400	48V	6	(6 x1)	1	6T X1S	824	408	1404	661	717	717	↑ 6T
24	UPST360-400	360-400	110V	14	(7x2)	2	7T X2S	1648	408	1622	1517	1643	1643	↑ 7T <sup>1</sup> 7T <sup>2</sup>
25	UPST360-400	360-400	110V	14	(7x2)	2	7T X1S B-B	824	916	1622	1517	1643	1643	↑ 7T
26	UPST360-400	360-400	220V	28	(7x4)	4	7T X4S	3296	408	1622	3034	3286	3286	↑ 7T <sup>1</sup> ... ↑ 7T <sup>4</sup>
27	UPST360-400	360-400	220V	28	(7x4)	4	7T X2S B-B	1648	916	1622	3034	3286	3286	↑ 7T 7T
28	UPST360-400	360-400	360V	45	(9x5)	5	9T X5S	4120	408	2108	4971	5385	5385	↑ 9T <sup>1</sup> ... ↑ 9T <sup>5</sup>
29	UPST360-400	360-400	408V	51	(9x5) + (6x1)	6	9T X5S + 6T X1S	4944	408	2108	5637	6106	6106	↑ 9T <sup>1</sup> ... ↑ 9T <sup>5</sup> 6T

Note : T = Tier, S = Stack, B-B = Back to Back

Please see the Notes on Page No. 7



Table No. : 2 SYSTEM CONFIGURATION AND MAXIMUM OVERALL DIMENSIONS

Sl. No	TYPE	C10 CAPACITY Ah	VOLTAGE	NO. OF MODULES	NO. OF TIERS	NO. OF STACKS	SYSTEM ARRANGEMENT	MAX. SYSTEM LENGTH mm	MAX. SYSTEM DEPTH mm	MAX. SYSTEM HEIGHT mm	WEIGHT Kg ± 5%	LAYOUT BLOCK DIAGRAM
30	UPST500-600	500-600	48V	6	(6 x 1)	1	6T X 1S	789	540	1655	UPST5000 893	6T
31	UPST500-600	500-600	110V	14	(6x2) + (2x1)	3	6T X 2S + 2T X 1S	2367	540	1655	2055	6T 6T 2T
32	UPST500-600	500-600	220V	28	(6x4) + (4x1)	5	6T X 4S + 4T X 1S	3945	540	1655	4105	6T <sup>1</sup> 6T <sup>4</sup> 4T
33	UPST500-600	500-600	220 V	28	(6x4) + (4x1)	5	6T X 2S B-B + 4T X 1S	2367	1230	1655	4105	6T 6T 4T
34	UPST500-600	500-600	220V	28	(7 x 1)	4	7T X 4S	3156	1230	1910	4100	7T <sup>4</sup>
35	UPST500-600	500-600	360V	45	(6x7) + (3x1)	8	6T X 7S + 3T X 1S	6312	1230	1655	6700	6T <sup>7</sup> 3T
36	UPST500-600	500-600	360V	45	(6x7) + (3x1)	8	6T X 3S B-B + 6.3T X 1S B-B	3156	1230	1655	6700	6T <sup>3</sup> 6T 6T <sup>3</sup> 3T
37	UPST500-600	500-600	408V	51	(6x8) + (3x1)	9	6T X 8S + 3T X 1S	7101	540	1655	7593	6T <sup>8</sup> 3T
38	UPST500-600	500-600	408V	51	(6x8) + (3x1)	9	6T X 4S B-B + 3T X 1S	3945	1230	1655	7593	6T <sup>4</sup> 6T <sup>4</sup> 3T
39	UPST720-800-1000	720-800-1000	48V	12	(4 x 3)	3	4T X 3S	1386	540	1577	UPST720 1376	4T <sup>3</sup>
40	UPST720-800-1000	720-800-1000	48V	12	(4 x 3)	3	4T X 1S B-B + 4T X 1S	924	1230	1577	1479	4T <sup>1</sup> 4T
41	UPST720-800-1000	720-800-1000	110V	28	(4 x 7)	7	4T X 7S	3234	540	1577	1479	4T <sup>1</sup> 4T
42	UPST720-800-1000	720-800-1000	110 V	28	(4 x 7)	7	4T X 3S B-B + 4T X 1S	1848	1230	1577	3458	4T <sup>3</sup> 4T <sup>7</sup>
43	UPST720-800-1000	720-800-1000	220V	55	(4x13) + (3x1)	14	4T X 13S + 3T X 1S	6468	540	1577	3458	4T <sup>13</sup> 4T <sup>3</sup> 4T
44	UPST720-800-1000	720-800-1000	220V	55	(4x13) + (3x1)	14	4T X 6S B-B + 4.3T X 1S B-B	3234	1230	1577	6285	4T <sup>1</sup> 4T <sup>6</sup> 4T 4T <sup>3</sup> 3T
45	UPST720-800-1000	720-800-1000	220V	55	(5 x 11)	11	5T X 11S	5082	540	1940	6270	4T <sup>1</sup> 4T <sup>6</sup> 4T 4T <sup>3</sup> 3T
46	UPST720-800-1000	720-800-1000	360V	90	(4x22) + (2x1)	23	4T X 22S + 2T X 1S	10626	540	1577	10285	5T <sup>1</sup> 5T <sup>11</sup>
47	UPST720-800-1000	720-800-1000	360V	90	(4x22) + (2x1)	23	4T X 11S B-B + 2T X 1S	5544	1230	1577	10285	4T <sup>1</sup> 4T <sup>11</sup> 4T <sup>11</sup> 2T
48	UPST720-800-1000	720-800-1000	408V	102	(4x25) + (2x1)	26	4T X 25S + 2T X 1S	12012	540	1577	11656	4T <sup>1</sup> 4T <sup>11</sup> 4T <sup>11</sup> 2T
49	UPST720-800-1000	720-800-1000	408V	102	(4x25) + (2x1)	26	4T X 12S B-B + 4.2T B-B	6006	1230	1577	11656	4T <sup>1</sup> 4T <sup>12</sup> 2T 4T <sup>12</sup> 2T
50	UPST720-800-1000	720-800-1000	408V	102	(5x20) + (2x1)	21	5T X 20S + 2T X 1S	9702	540	1940	11631	4T <sup>1</sup> 4T <sup>12</sup> 3T 5T <sup>20</sup> 2T
51	UPST720-800-1000	720-800-1000	408V	102	(5x20) + (2x1)	21	5T X 10S B-B + 2T X 1S	5082	1230	1940	11631	5T <sup>1</sup> 5T <sup>10</sup> 5T <sup>10</sup> 2T
52	UPST1500-1600	1500-1600	48V	12	(3 x 4)	4	3T X 4S	1744	540	1658	UPST1500 2446	3T <sup>4</sup>
53	UPST1500-1600	1500-1600	48V	12	(3 x 4)	4	3T X 2S B-B	872	1230	1661	2420	3T 3T 3T
54	UPST1500-1600	1500-1600	110V	28	(3x9) + (1x1)	10	3T X 9S + 1T X 1S	4620	540	1661	5720	3T <sup>9</sup> 1T
55	UPST1500-1600	1500-1600	110V	28	(3x9) + (1x1)	10	3T X 4S B-B + 3.1T X 1S B-B	2310	1230	1661	5720	3T <sup>4</sup> 3T <sup>4</sup> 1T
56	UPST1500-1600	1500-1600	220V	55	(3x18) + (1x1)	19	3T X 18S + 1T X 1S	8778	540	1661	11228	3T <sup>18</sup> 1T
57	UPST1500-1600	1500-1600	220V	55	(3x18) + (1x1)	19	3T X 9S B-B + 1T X 1S	4620	1230	1661	11228	3T <sup>9</sup> 3T <sup>9</sup> 1T
58	UPST1500-1600	1500-1600	360V	90	(3x 30)	30	3T X 30S	13860	540	1661	18360	3T <sup>30</sup>
59	UPST1500-1600	1500-1600	360V	90	(3x 30)	30	3T X 15S B-B	6930	1230	1661	18360	3T <sup>15</sup> 3T <sup>15</sup>
60	UPST1500-1600	1500-1600	408V	102	(3x 34)	34	3T X 34S	15708	540	1661	20808	3T <sup>34</sup>
61	UPST1500-1600	1500-1600	408V	102	(3x 34)	34	3T X 17S B-B	7854	1230	1661	20808	3T <sup>17</sup> 3T <sup>17</sup>

Note : T = Tier, S = Stack, B-B = Back to Back

Please see the Notes on Page No. 7



**Table No. : 2 SYSTEM CONFIGURATION AND MAXIMUM OVERALL DIMENSIONS**

Sl. No	TYPE	C10 CAPACITY Ah	VOLTAGE	NO. OF MODULES	NO. OF TIERS	NO. OF STACKS	SYSTEM ARRANGEMENT	MAX. SYSTEM LENGTH mm	MAX. SYSTEM DEPTH mm	MAX. SYSTEM HEIGHT mm	WEIGHT Kg ± 5%	LAYOUT BLOCK DIAGRAM
62	UPST2000	2000	48V	24	(4x6)	6	4T X 6S	2616	540	1573	3550	4T1
63	UPST2000	2000	110V	55	(5x11)	11	5T X 11S	4796	540	1935	8107	5T1
64	UPST2000	2000	110V	55	(5x10)+(5x1)	11	5T X 5S B-B + 5T X 1S	2616	1230	1935	8107	5T1
65	UPST2000	2000	220V	110	(5x22)	22	5T X 11S B-B	4796	1230	1935	16214	5T1
66	UPST2000	2000	360V	180	(5x36)	36	5T X 18S B-B	7848	1230	1935	26532	5T1
67	UPST2000	2000	408V	204	(5x40)+(4x1)	41	5T X 20S B-B + 4T X 1S	9156	1230	1935	30072	5T1
68	UPST2500-3000	2500-3000	48V	24	(4x8)	8	3T X 8S	3488	540	2108	4365 4892	4T1
69	UPST2500-3000	2500-3000	110	55	(3x18)+(1x1)	19	3T X 9S B-B + 1T X 1S	4360	1230	1658	10073 11228	3T1
70	UPST2500-3000	2500-3000	220	110	(3x36)+(1x1)	37	3T X 18S B-B + 1T X 1S	8284	1230	1658	20134 22444	3T1
71	UPST2500-3000	2500-3000	360	180	(3x60)	60	3T X 30S B-B	13080	1230	1658	32940 36720	3T1
72	UPST2500-3000	2500-3000	408	408	(3x68)	68	3T X 34S B-B	14824	1230	1658	37332 41616	3T1
73	UPST4000	4000	48	48	(4x12)	12	4T X 12S	5232	540	1573	7100	4T1
74	UPST4000	4000	110	110	(5x22)	22	5T X 11S B-B	4796	1230	1935	16214	5T1
75	UPST4000	4000	220	220	(5x44)	44	5T X 22S B-B	9592	1230	1935	32428	5T1
76	UPST4000	4000	360	360	(5x72)	72	5T X 36S B-B	15696	1230	1935	53064	5T1
77	UPST4000	4000	408	408	(5x80)+(4x2)	82	5T X 40S B-B + 4T X 1S B-B	17876	1230	1935	60144	5T1
78	UPST5000-6000	5000-6000	48	48	(4x12)	12	4T X 12S	5232	540	2169	8730 10368	4T1
79	UPST5000-6000	5000-6000	110	110	(3x36)+(2x1)	37	3T X 18S B-B + 2T X 1S	8284	1230	1658	20134 23764	3T1
80	UPST5000-6000	5000-6000	220	220	(3x72)+(2x1)	73	3T X 36S B-B + 2T X 1S	16132	1230	1658	40256 47516	3T1
81	UPST5000-6000	5000-6000	360	360	(3x120)	120	3T X 60S B-B	52320	1230	1658	65880 77760	3T1
82	UPST5000-6000	5000-6000	408	408	(3x136)	136	3T X 68S B-B	59296	1230	1658	74864 88128	3T1

**Note:** a) Maximum system height has been maintained within 2100 mm for operational ease.  
 b) Wherever multirows of stacks have been proposed, 100-150 mm. space has been considered between back to back stacks.  
 c) These are for standard configuration. However, special configurations can be made on request.  
 d) The System dimensions are mentioned with a tolerance of +10% and -0%

**How to read the chart ?**

Consider Sl. No. 55

- Battery capacity 1600 Ah (C-10)
- System Voltage = 110 Volts
- Total no. of Modules = 28
- Each module consists of two cells. Ref. table No. 1
- 3 Tier stacking and 9 Such stack
- 1 Tier stacking and 1 such stack
- Total no of stacks = 10
- Arrangement = 4 Stack Front & 4 stack back; each of 3 tier + 1 stack of 3 Tier Front and 1 stack of 1 Tier Back
- Total Length of the system 2310 mm
- Total Height of the system 1661 mm
- Total Depth of the system 1230 mm,
- Total Weight of the system 5720 kgs

Layouts shown here are indicative only. Customised drawings are available on request



**DISCHARGE RATE IN AMPS AT 27 DEG CELSIUS**

**Table No. : 3**

Cell type	Final Volt v / cell	1 min	5 mins	15 mins	30 mins	60 mins	90 mins	2 hrs	3 hrs	4 hrs	5 hrs	6 hrs	8 hrs	10 hrs
UPST 80	1.80			64	53	44	34	28	21	17	14	12	10	8
	1.75	192	128	72	58	48	37	30	23	18	15	13	10	8
	1.70	194	131	78	61	51	39	32	24	19	16	13	10	9
	1.65	196	135	83	64	53	40	33	24	19	16	14	11	9
	1.60	201	140	87	65	54	41	33	25	20	17	14	11	9
UPST 100	1.80			81	67	55	43	36	27	22	18	15	12	10
	1.75	240	160	90	72	60	46	38	28	23	19	16	13	10
	1.70	243	164	98	76	64	48	39	29	24	20	17	13	11
	1.65	245	169	104	80	66	50	41	31	24	20	17	13	11
	1.60	251	175	109	82	68	51	42	31	25	21	18	14	11
UPST125	1.80			97	80	66	51	43	32	26	22	18	15	12
	1.75	288	192	108	86	72	55	45	34	27	23	19	15	12.5
	1.70	291	197	118	92	76	58	47	35	28	23	20	16	13
	1.65	294	203	125	95	79	60	49	37	29	24	21	16	13
	1.60	301	210	130	98	82	61	50	38	30	25	21	16	13
UPST 165	1.80			133	110	91	70	59	44	36	30	25	20	16
	1.75	96	264	149	119	99	76	62	47	38	31	27	21	16.5
	1.70	400	271	162	126	105	80	65	49	39	32	28	21	18
	1.65	405	279	172	131	109	82	67	50	40	33	28	22	18
	1.60	414	288	179	135	112	84	69	52	41	34	29	23	18
UPST 200	1.80			161	133	110	85	71	54	43	36	31	24	20
	1.75	480	320	180	144	120	92	75	57	46	38	32	25	21
	1.70	485	329	196	153	127	97	79	59	47	39	34	26	22
	1.65	491	338	208	159	132	100	81	61	48	40	34	27	22
	1.60	502	349	217	163	136	102	83	63	50	41	35	27	22
UPST 250	1.80			202	167	138	107	89	67	54	45	39	31	25
	1.75	600	400	225	180	151	115	94	71	57	47	41	32	26
	1.70	606	411	245	191	159	121	99	74	59	49	42	33	27
	1.65	613	423	261	199	166	125	102	77	61	50	43	34	28
	1.60	628	437	272	204	170	127	104	79	63	52	44	34	28
UPST 300	1.80			242	200	166	128	107	80	65	54	46	37	30
	1.75	720	480	270	216	181	138	113	85	68	56	49	38	31
	1.70	728	493	294	229	191	145	118	88	71	59	50	39	32
	1.65	736	507	313	239	199	149	122	92	73	60	52	40	33
	1.60	753	524	326	245	204	152	125	94	75	62	53	41	34
UPST330	1.80			629	391	294	245	183	150	113	90	75	64	49
	1.75	792	528	297	238	199	151	124	94	75	62	53	42	34
	1.70	800	542	323	252	210	159	130	97	78	64	55	43	36
	1.65	809	558	344	262	218	164	134	101	80	66	57	44	36
	1.60	828	577	359	269	224	168	138	104	83	68	58	45	37



**Table No. : 3 DISCHARGE RATE IN AMPS AT 27 DEG CELSIUS**

Cell type	Final Volt v / cell	1 min	5 mins	15 mins	30 mins	60 mins	90 mins	2 hrs	3 hrs	4 hrs	5 hrs	6 hrs	8 hrs	10 hrs
UPST360	1.80				242	204	171	133	113	85	69	58	50	40
	1.75	864			290	240	199	154	128	96	78	65	55	44
	1.70	873	864	576	324	259	217	165	136	102	82	68	58	45
	1.65	883	873	591	353	275	229	174	142	106	85	70	60	47
UPST 400	1.60	904	883	608	375	286	238	179	147	110	87	72	62	48
	1.80			322	267	221	171	142	107	86	72	62	49	40
	1.75	960	640	360	288	241	184	151	114	91	75	65	50	42
	1.70	970	657	392	305	255	193	158	118	94	78	67	52	43
UPST500	1.65	981	676	417	318	265	199	163	122	97	80	69	54	44
	1.60	1004	699	435	326	272	203	167	126	100	83	71	55	45
	1.80			383	330	263	200	178	124	97	83	75	60	49
	1.75	800	550	428	348	274	211	182	128	99	85	76	62	50
UPST 600	1.70	865	675	442	379	290	225	191	134	103	91	77	64	54
	1.65	865	733	461	390	299	235	196	135	105	95	80	65	55
	1.60	950	800	489	403	313	248	205	145	109	100	84	67	57
	1.80			459	396	316	240	213	148	116	99	89	71	58
UPST 720	1.75		660	513	417	328	253	218	153	119	101	91	74	60
	1.70	960	810	530	455	348	270	229	160	123	109	92	77	64
	1.65	1038	879	553	468	359	281	235	162	126	113	95	78	66
	1.60	1140	960	587	483	375	297	246	174	131	120	100	80	68
UPST 800	1.80			551	475	379	288	256	178	140	119	107	86	70
	1.75		792	616	500	394	303	262	184	143	122	109	89	72
	1.70	1152	972	636	546	418	324	274	192	148	131	111	92	77
	1.65	1246	1055	663	562	431	338	282	194	151	136	114	94	79
UPST800	1.60	1368	1152	704	580	450	356	295	209	157	144	120	96	81
	1.80			612	528	421	320	284	198	155	132	119	95	78
	1.75		880	684	556	438	337	291	204	158	135	121	98	80
	1.70	1280	1080	707	606	464	360	305	214	164	146	123	102	86
UPST1000	1.65	1384	1172	737	624	478	375	313	216	168	151	127	104	88
	1.60	1520	1280	782	644	500	396	328	232	174	160	134	106	90
	1.80			765	660	526	400	355	247	194	165	149	119	97
	1.75		1100	855	695	547	421	364	255	198	169	151	123	100
UPST 1500	1.70	1600	1350	884	758	580	450	381	267	205	182	154	128	107
	1.65	1730	1465	921	780	598	469	391	270	210	189	159	130	110
	1.60	1900	1600	978	805	625	495	410	290	218	200	167	133	113
	1.80			1148	990	789	600	533	371	291	248	224	179	146
UPST 1500	1.75		1650	1283	1043	821	632	546	383	297	254	227	185	150
	1.70	2400	2025	1326	1137	870	675	572	401	308	273	231	192	161
	1.65	2595	2198	1382	1170	897	704	587	405	315	284	239	195	165
	1.60	2850	2400	1467	1208	938	743	615	435	327	300	251	200	1701



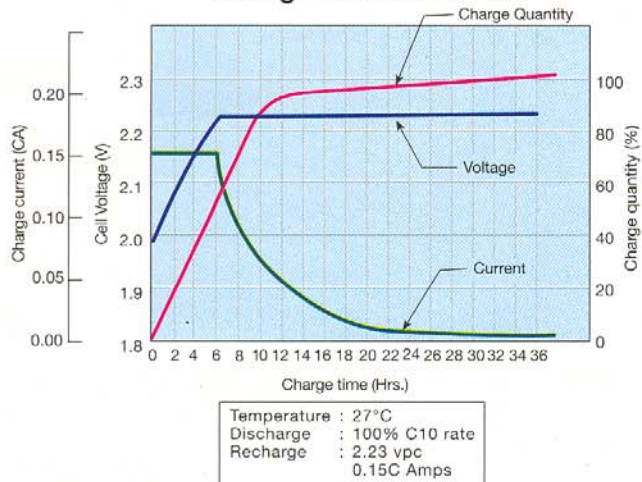
**Table No. : 3 DISCHARGE RATE IN AMPS AT 27 DEG CELSIUS**

Cell type	Final Volt v / cell	1 min	5 mins	15 mins	30 mins	60 mins	90 mins	2 hrs	3 hrs	4 hrs	5 hrs	6 hrs	8 hrs	10 hrs
UPST 1600	1.80			1224	1056	842	640	568	395	310	264	238	190	155
	1.75		1760	1368	1112	875	674	582	408	317	270	242	197	160
	1.70	2560	2160	1414	1213	928	720	610	427	328	291	246	205	171
	1.65	2768	2344	1474	1248	957	750	626	432	336	302	254	208	176
	1.60	3040	2560	1595	1288	1000	792	656	464	349	320	267	213	181
UPST 2000	1.80			1499	1294	1031	784	696	494	388	330	298	238	194
	1.75		2156	1676	1362	1072	825	713	510	396	338	302	246	200
	1.70	3136	2646	1733	1486	1137	882	747	534	410	364	308	256	214
	1.65	3391	2871	1805	1529	1172	919	766	540	420	378	318	260	220
	1.60	3724	3136	1917	1578	1225	970	804	580	436	400	334	266	226
UPST 2500	1.80			1874	1617	1289	980	870	618	485	413	373	298	243
	1.75		2695	2095	1703	1340	1031	892	638	495	423	378	308	250
	1.70	3920	3308	2166	1857	1421	1103	933	668	513	455	385	320	268
	1.65	4239	3589	2256	1911	1465	1149	958	675	525	473	398	325	275
	1.60	4655	3920	2396	1972	1531	1213	1005	725	545	500	418	333	283
UPST 3000	1.80			2249	1940	1546	1176	1044	741	582	495	447	357	291
	1.75		3234	2514	2043	1608	1238	1070	765	594	507	453	369	300
	1.70	4704	3969	2599	2229	1705	1323	1120	801	615	546	462	384	321
	1.65	5190	4307	2708	2293	1758	1379	1150	810	630	567	477	390	330
	1.60	5700	4704	2875	2367	1838	1455	1205	870	654	600	501	399	339
UPST 4000	1.80			2907	2508	1999	1520	1349	988	776	660	596	476	388
	1.75		4180	3249	2641	2079	1600	1383	1020	792	676	604	492	400
	1.70	6080	5130	3359	2880	2204	1710	1448	1088	820	728	616	512	428
	1.65	6574	5567	3500	2964	2272	1782	1486	1080	840	756	636	520	440
	1.60	7220	6080	3716	3059	2375	1881	1558	1160	872	800	688	532	452
UPST 5000	1.80			3634	3135	2499	1900	1686	1235	970	825	745	595	485
	1.75		5225	4061	3301	2598	2000	1729	1275	990	845	755	615	500
	1.70	7600	6413	4199	3601	2755	2138	1810	1335	1025	910	770	640	535
	1.65	8218	6959	4375	3705	2841	2228	1857	1350	1050	945	795	650	550
	1.60	9025	7600	4846	3824	2969	2351	1948	1450	1090	1000	835	665	565
UPST 6000	1.80			4361	3762	2998	2280	2024	1482	1164	990	894	714	582
	1.75		6270	4874	3962	3118	2400	2075	1530	1188	1014	906	738	600
	1.70	9120	7695	5039	4321	3306	2565	2172	1602	1230	1092	924	768	642
	1.65	9861	8351	5250	4446	3409	2673	2229	1620	1260	1134	954	780	660
	1.60	10830	9120	5575	4589	3563	2822	2337	1740	1308	1200	1002	798	678

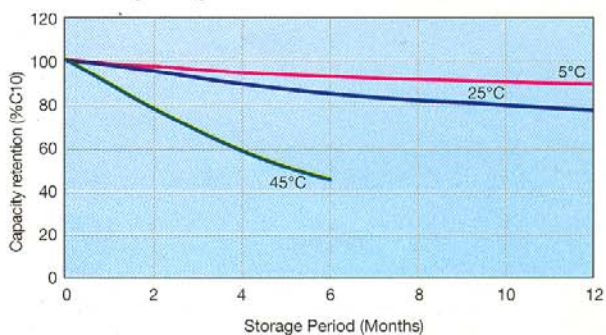


# BATTERY CHARACTERISTICS

**Charge Characteristics**

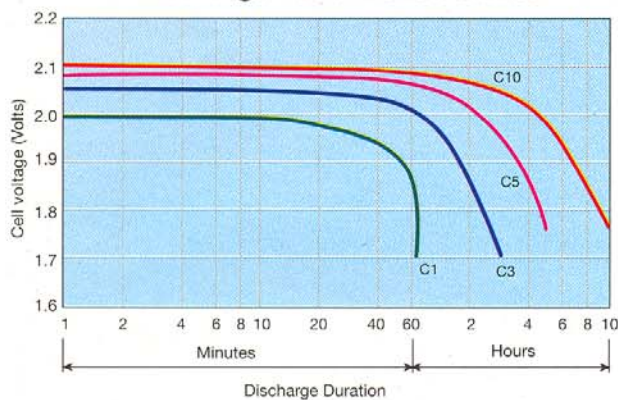


**Capacity Retention Characteristics**

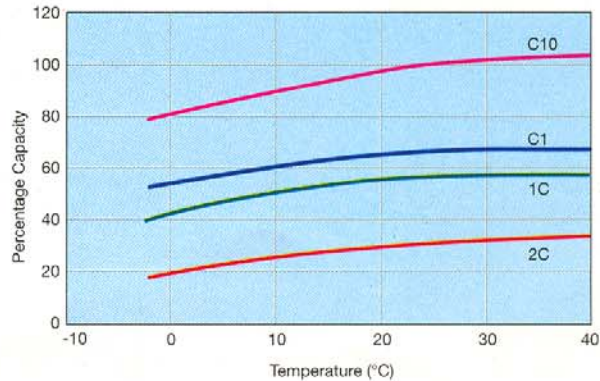


● Supplementary charge is recommended before capacity retention ratio drops less than 80%.

**Discharge Performance Curves**

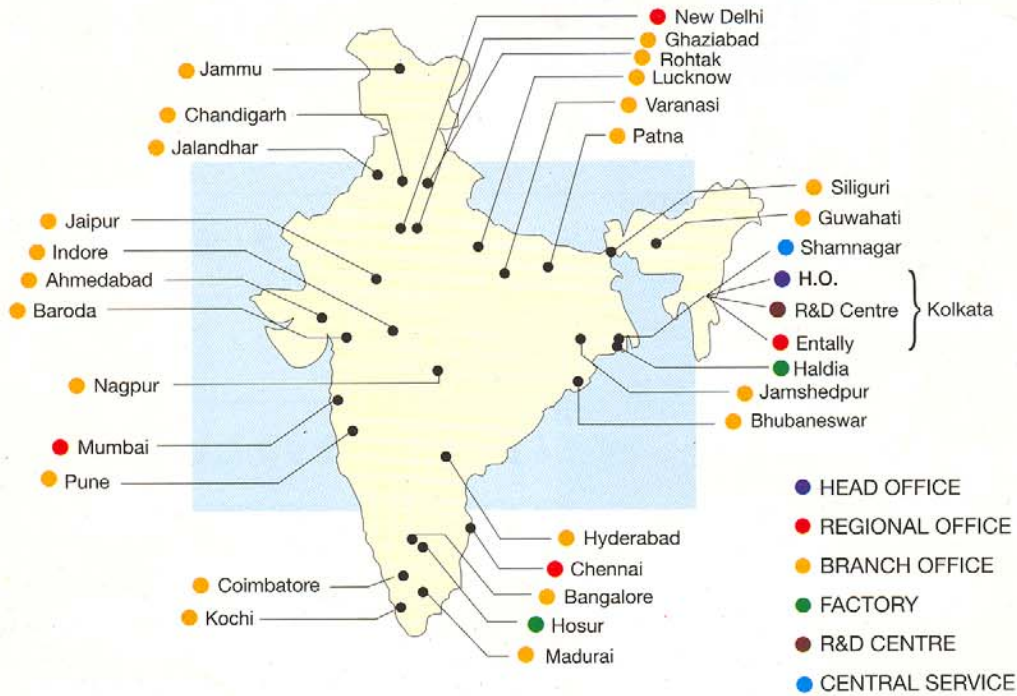


**Effect of Temperature on Capacity**





## NETWORK



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