



# RECHARGEABLE SEALED LEAD ACID BATTERY

Revision 3.3



## WP4.5-12

### Specifications

**Nominal Voltage (V)** 12V

#### Nominal Capacity

20hour rate ( 0.225A to	10.50V )	4.5Ah
10hour rate ( 0.45A to	10.50V )	4.275Ah
5hour rate ( 0.765A to	10.20V )	3.825Ah
1C ( 4.5A to	9.60V )	2.025Ah
3C ( 13.5A to	9.60V )	1.62Ah

**Weight** 1.828kg(4.02Lbs.)

**Internal Resistance (at 1KHz)** 30 mΩ

**Maximum Discharge Current for 30 seconds :** 90A

**Maximum Discharge Current for 5 seconds :** 180A

#### Operating Temperature Range

Charge	0°C (32°F) to	40°C (104°F)
Discharge	-15°C (5°F) to	50°C (122°F)
Storage	-15°C (5°F) to	40°C (104°F)

#### Charge Retention (shelf life) at 20°C (68°F)

1 month	92%
3 month	90%
6 month	80%

#### Charging Methods at 25°C (77°F)

##### Cycle use:

Charging Voltage 14.4 to 15.0V  
Maximum Charging Current : 1.35A

##### Standby use :

Float Charging Voltage 13.50 to 13.80V

#### Life expectancy :

##### Cycle Use :

100% depth of discharge 200 cycles  
80% depth of discharge 225 cycles  
50% depth of discharge 500 cycles

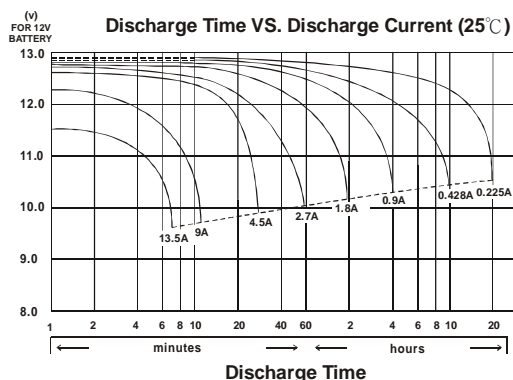
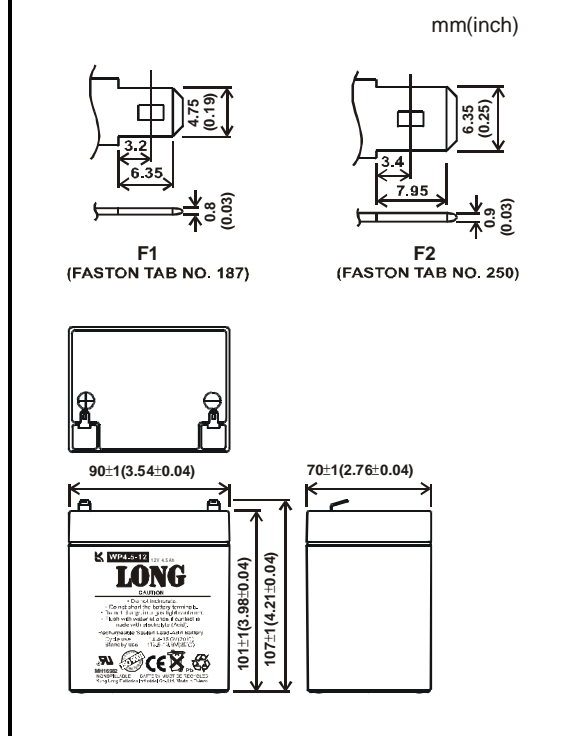
**Standby Use :** 3~5years

**Case Material** ABS

(Option : 94-HB & 94V-0 flame retardant case)

**Terminal** F1 or F2

### Dimensions



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SEALED LEAD ACID BATTERY**

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**PERFORMANCE DATA**

**Discharge Rates in Watts to Various End Voltages at 25°C**

Time \ End Voltage	11.40V	11.10V	10.80V	10.50V	10.20V	9.90V	9.60V
1 min	368	437	469	493	542	595	652
2 min	307	350	378	401	430	457	482
3 min	268	299	323	343	363	380	393
5 min	218	238	256	272	283	291	297
7 min	186	202	216	228	235	240	243
10 min	155	166	177	185	190	192	193
15 min	123	131	138	143	145	146	147
20 min	103	110	114	117	118	119	119
30 min	78.5	83.4	85.7	86.0	86.5	86.9	87.9
60 min	46.7	50.0	49.7	48.1	48.0	48.4	49.8
90 min	35.8	37.6	38.4	38.6	38.7	38.9	39.0
120 min	28.6	30.0	30.6	30.7	30.8	30.9	31.0
180 min	20.6	21.6	22.0	22.0	22.1	22.2	22.2
240 min	16.2	17.0	17.3	17.3	17.3	17.4	17.5
300 min	13.4	14.0	14.3	14.3	14.3	14.4	14.4
360 min	11.4	12.0	12.2	12.2	12.2	12.3	12.3
480 min	8.83	9.28	9.44	9.48	9.51	9.54	9.57
600 min	7.20	7.57	7.72	7.77	7.79	7.82	7.84
1200 min	3.72	3.94	4.05	4.09	4.12	4.13	4.14

**Discharge Rates in Amperes to Various End Voltages at 25°C**

Time \ End Voltage	11.40V	11.10V	10.80V	10.50V	10.20V	9.90V	9.60V
1 min	31.2	36.3	40.6	44.4	48.3	52.6	55.7
2 min	25.9	29.1	31.7	33.7	35.4	36.8	38.2
3 min	22.3	24.7	26.6	27.9	28.8	29.5	30.3
5 min	17.8	19.3	20.5	21.3	21.7	21.9	22.4
7 min	14.9	16.1	16.9	17.5	17.8	17.9	18.1
10 min	12.1	13.0	13.6	14.0	14.2	14.3	14.4
15 min	9.30	9.90	10.3	10.6	10.8	10.9	11.1
20 min	7.55	8.03	8.35	8.59	8.83	9.00	9.09
30 min	5.51	5.85	6.08	6.28	6.54	6.77	6.85
60 min	3.01	3.20	3.34	3.49	3.76	4.05	4.14
90 min	2.97	3.12	3.21	3.24	3.25	3.27	3.29
120 min	2.40	2.52	2.59	2.61	2.62	2.63	2.65
180 min	1.76	1.84	1.88	1.90	1.91	1.92	1.93
240 min	1.39	1.46	1.49	1.51	1.51	1.52	1.53
300 min	1.16	1.21	1.23	1.25	1.26	1.26	1.27
360 min	0.99	1.03	1.06	1.07	1.07	1.08	1.09
480 min	0.77	0.80	0.82	0.83	0.83	0.84	0.84
600 min	0.64	0.66	0.67	0.68	0.68	0.69	0.69
1200 min	0.33	0.34	0.34	0.35	0.36	0.36	0.36