

### Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

20 hour rate	(2A	to	10.50V)	40Ah
10 hour rate	(3.8A	to	10.50V)	38Ah
5 hour rate	(6.8A	to	10.20V)	34Ah
1 C	(40A	to	9.60V)	22.67Ah
3 C	(120A	to	9.60V)	16Ah

#### Weight

Approx. 13.4kg(29.5Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 7.5 mΩ

#### Maximum Discharge Current for

5 seconds: 480A

#### Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	14.4 to 15.0V
Coefficient -5.0mV/°C/cell	
Maximum Charging Current :	12A
Standby use:	
Float Charging Voltage	13.5 to 13.8V
Coefficient -3.0mV/°C/cell	

#### Operating Temperature Range

Charge	-15°C(5°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	97%
3 month	92%
6 month	85%

#### Case Material

ABS UL94 HB  
Option: Flammability resistance of (UL94 V-0)

#### Design Life

3-5 Years.

#### Terminal

F8

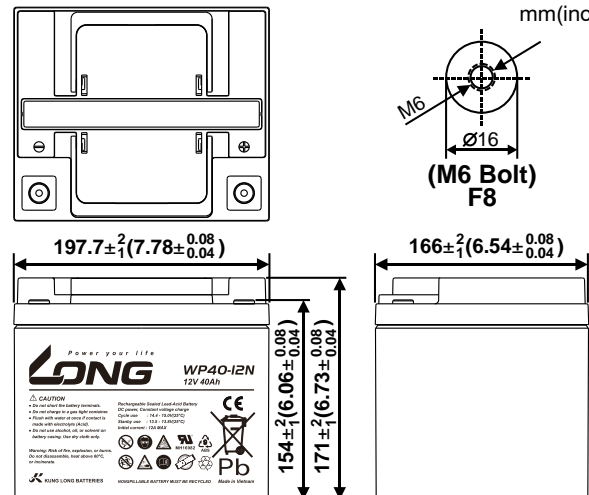


### Dimensions

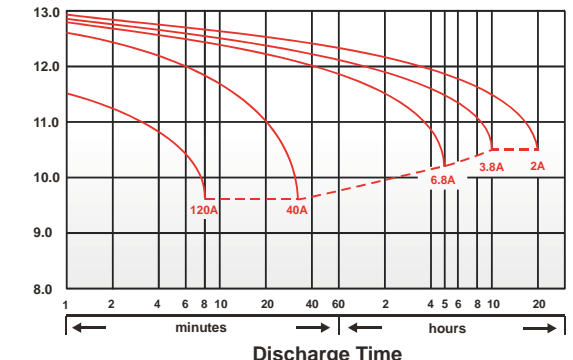
Length (L)	197.7 <sup>+2</sup> <sub>-1</sub> (7.78 <sup>+0.08</sup> <sub>-0.04</sub> )
Width (W)	166 <sup>+2</sup> <sub>-1</sub> (6.54 <sup>+0.08</sup> <sub>-0.04</sub> )
Height (H)	171 <sup>+2</sup> <sub>-1</sub> (6.73 <sup>+0.08</sup> <sub>-0.04</sub> )
Overall Height (HT)	171 <sup>+2</sup> <sub>-1</sub> (6.73 <sup>+0.08</sup> <sub>-0.04</sub> )

#### Description of torque value of hard ware for the terminals:

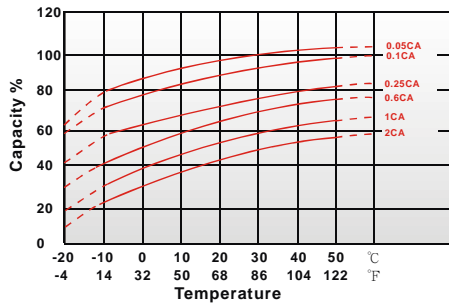
Recommended torque value	M6: 7 N-m (71 kgf-cm)
Maximum allowable torque value	M6: 10 N-m (102 kgf-cm)



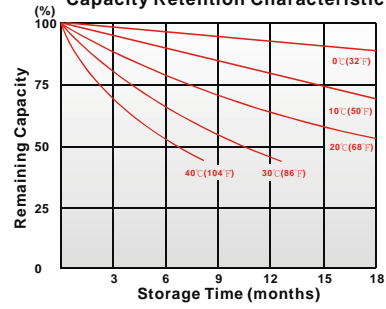
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



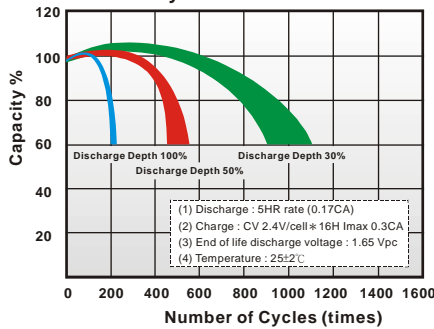
Effect of Temperature on Capacity 25°C (77°F)



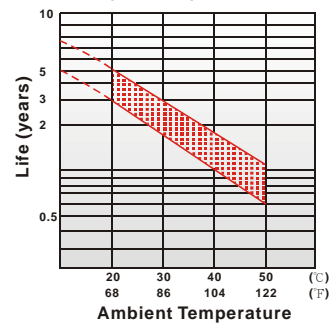
Capacity Retention Characteristic



Cycle Service Life



Trickle (or float) Service Life



### - PERFORMANCE DATA

Discharge Rates in Watts to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
5	min	205	230	255	265	270	275	280
10	min	155	170	180	190	194	197	200
15	min	130	136	142	146	148	149	150
30	min	81.5	84.5	87.0	89.5	90.5	91.0	91.5
60	min	49.5	50.2	50.9	51.2	51.4	51.5	51.5
120	min	27.7	28.8	29.7	30.2	30.5	30.8	31.0
180	min	20.5	21.0	21.5	21.6	21.6	21.7	21.8
240	min	16.1	16.6	17.0	17.4	17.6	17.8	18.0
300	min	13.6	13.9	14.2	14.4	14.6	14.7	14.8
480	min	9.47	9.56	9.64	9.69	9.72	9.75	9.78
600	min	7.50	7.75	7.95	7.97	7.98	7.99	7.99
1200	min	4.10	4.20	4.30	4.35	4.38	4.40	4.41

- Discharge Rates in Amperes to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
5	min	110	125	140	145	150	153	157
10	min	83.0	91.8	99.5	103	104	105	105
15	min	68.5	74.7	80.5	82.0	82.5	82.5	83.0
30	min	41.5	43.6	45.5	46.2	46.6	46.8	47.0
60	min	24.1	24.8	25.5	26.0	26.2	26.3	26.4
120	min	14.9	15.3	15.6	15.8	15.8	15.9	16.0
180	min	10.5	10.9	11.2	11.4	11.5	11.6	11.7
240	min	8.64	8.85	9.05	9.16	9.18	9.19	9.20
300	min	7.00	7.20	7.35	7.37	7.38	7.39	7.40
480	min	4.70	4.79	4.88	4.90	4.92	4.94	4.95
600	min	3.89	3.95	4.00	4.04	4.06	4.08	4.10
1200	min	2.00	2.07	2.15	2.17	2.18	2.19	2.20

All data on the spec. sheet is an average value:

The tolerance range :  $X < 6\text{min}$  (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$  (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$  (+8%~-8%),  $X \geq 60\text{min}$  (+5%~-5%)

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