

⚡ Specifications

Nominal Voltage(V)

12V

Nominal Capacity

20 hour rate	(1.1A	to	10.50V)	22Ah
10 hour rate	(2.09A	to	10.50V)	20.9Ah
5 hour rate	(3.74A	to	10.20V)	18.7Ah
1 C	(22A	to	9.60V)	12.47Ah
3 C	(66A	to	9.60V)	8.8Ah

Weight

Approx. 6.9kg(15.18Lbs.)

Internal Resistance (at 1KHz)

Approx. 9 mΩ

Maximum Discharge Current for

5 seconds: 330A

Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	14.4 to 15.0V
Coefficient -5.0mV/°C/cell	
Maximum Charging Current :	6.6A
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	92%
3 month	90%
6 month	80%

Case Material

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

Design Life

3-5 Years.

Terminal

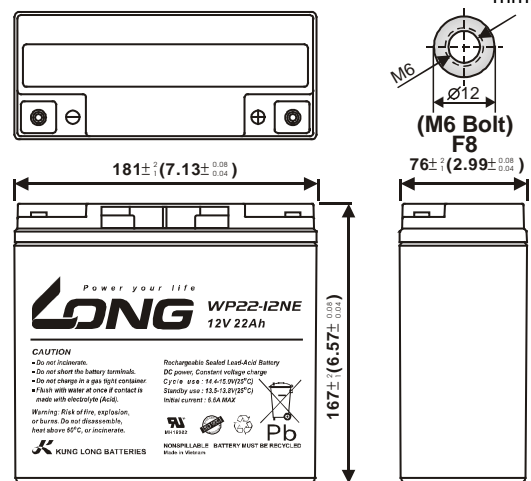
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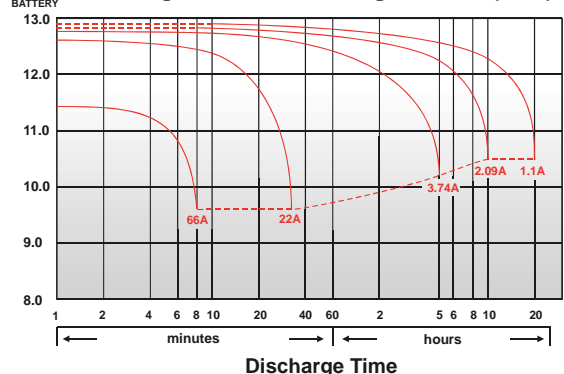
⚡ Dimensions

Length (L)	181±2-1 (7.13±0.08-0.04)
Width (W)	76±2-1 (2.99±0.08-0.04)
Height (H)	167±2-1 (6.57±0.08-0.04)
Overall Height (HT)	167±2-1 (6.57±0.08-0.04)

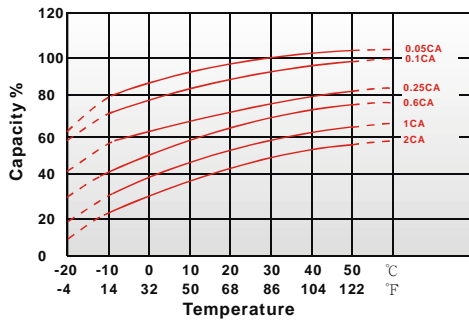
Recommended torque value M6: 7 N-m (71kgf-cm)
Maximum allowable torque value M6: 9 N-m (92kgf-cm)
mm(inch)



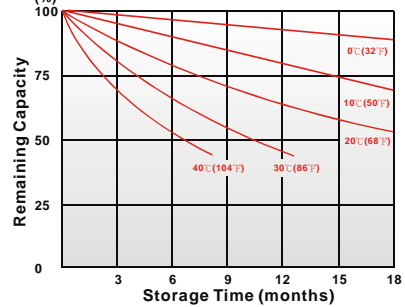
(V) Discharge Time VS. Discharge Current (25°C)
FOR 12V BATTERY



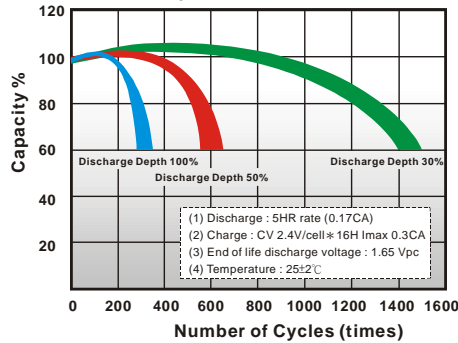
Effect of Temperature on Capacity 25°C(77°F)



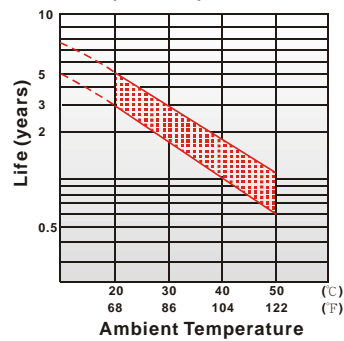
Capacity Retention Characteristic



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	136	152	164	171	173	175	177
10	min	88.3	99.7	107	112	113	114	116
15	min	67.4	75.1	80.1	83.2	84.1	85.0	85.8
30	min	39.8	43.9	46.6	48.3	48.8	49.3	49.7
60	min	25.2	26.0	26.7	27.1	27.3	27.4	27.6
120	min	15.2	15.5	15.7	15.9	16.0	16.1	16.2
180	min	10.8	11.1	11.3	11.4	11.5	11.5	11.6
240	min	8.60	8.87	9.02	9.14	9.19	9.24	9.31
300	min	7.25	7.48	7.65	7.78	7.84	7.87	7.91
600	min	4.12	4.32	4.47	4.57	4.60	4.63	4.67
1200	min	2.20	2.28	2.35	2.41	2.42	2.44	2.45

- 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	74.8	83.3	90.1	97.6	99.3	102	105
10	min	48.1	54.0	57.4	59.9	60.8	61.5	62.3
15	min	36.6	41.4	43.1	44.4	44.8	45.3	45.9
30	min	20.0	22.1	23.5	24.2	24.4	24.7	25.1
60	min	12.4	12.8	13.1	13.4	13.5	13.6	13.8
120	min	7.61	7.83	7.98	8.12	8.16	8.21	8.27
180	min	5.32	5.51	5.64	5.75	5.79	5.83	5.88
240	min	4.17	4.33	4.45	4.54	4.58	4.61	4.65
300	min	3.56	3.68	3.77	3.84	3.87	3.89	3.92
600	min	2.06	2.14	2.21	2.26	2.27	2.29	2.31
1200	min	1.07	1.12	1.16	1.19	1.20	1.21	1.22

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

The tolerance range : X<6min(+15%~-15%), 6min ≤ X<10min(+12%~-12%), 10min ≤ X < 60min(+8%~-8%), X ≥ 60min(+5%~-5%)

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