

### ⚡ 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	97%
3 month	92%
6 month	85%

#### Case Material

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

#### Design Life

EUROBAT(20°C):3-5 YEARS STANDARD COMMERCIAL

#### Terminal

F8



### ⚡ Dimensions

#### Length (L)

181 ± 2 (7.13 ± 0.08)

#### Width (W)

76 ± 2 (2.99 ± 0.08)

#### Height (H)

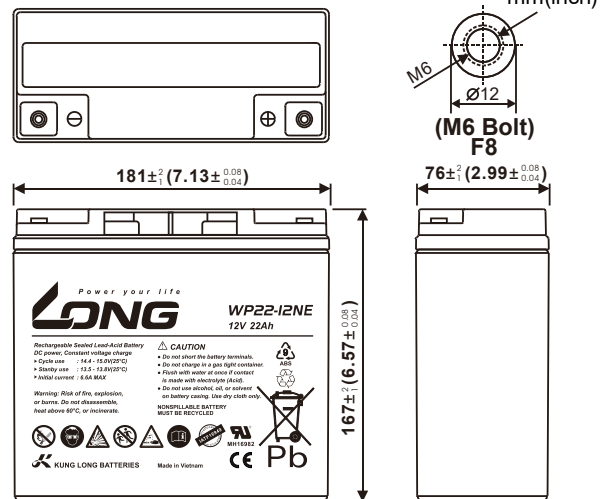
167 ± 2 (6.57 ± 0.08)

#### Overall Height (HT)

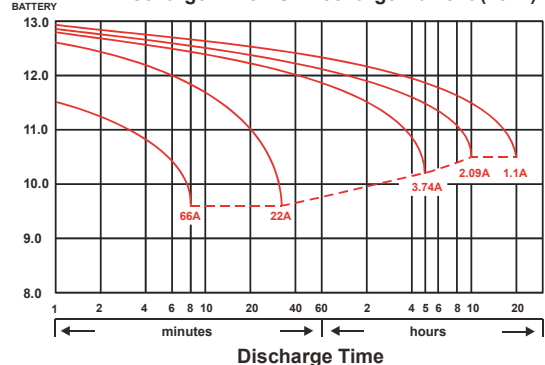
167 ± 2 (6.57 ± 0.08)

#### Description of torque value of hardware for the terminals:

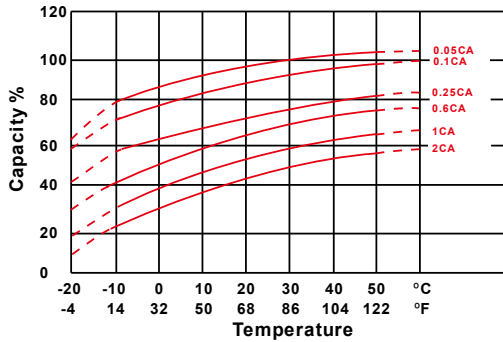
Recommended torque value	M6: 7 N-m (71 kgf-cm)
Maximum allowable torque value	M6: 10N-m (102kgf-cm)



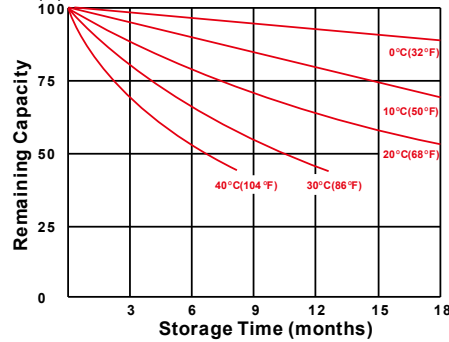
(v) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



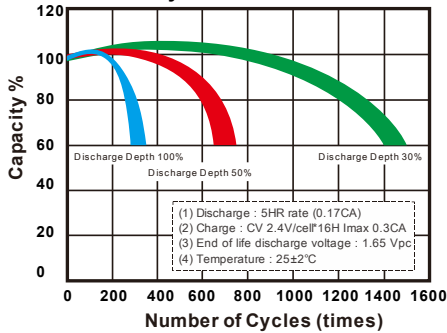
Effect of Temperature on Capacity 25 °C(77°F)



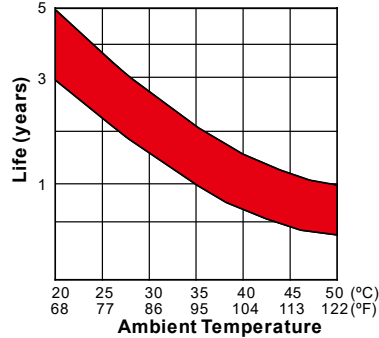
Capacity Retention Characteristic



Cycle Service Life



Influence of Temperature on Trickle(Float) Design 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	min							
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	min							
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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