

⚡ Specifications

Nominal Voltage(V)

12V

Nominal Capacity

10 hour rate	(13A	to	10.80V)	130Ah
5 hour rate	(22.1A	to	10.20V)	110.5Ah
1 hour rate	(78A	to	9.60V)	78Ah
1C	(130A	to	9.60V)	82.33Ah

Weight

Approx. 43.0kg(94.6Lbs.)

Internal Resistance (at 1KHz)

Approx. 5 mΩ

Maximum Discharge Current for

5 seconds:1300A

Charging Methods at 25°C(77°F)

Cycle use:

Charging Voltage 14.4 to 15.0V

Coefficient -5.0mV/°C/cell

Maximum Charging Current : 39A

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 98%

3 month 94%

6 month 85%

Case Material

ABS UL94 HB

Option: Flammability resistance of (UL94 V-0)

Design Life

12 Years.

Terminal

F8



⚡ Dimensions

Length (L)

352+2-1 (13.86+0.08-0.04)

Width (W)

170+2-1 (6.69+0.08-0.04)

Height (H)

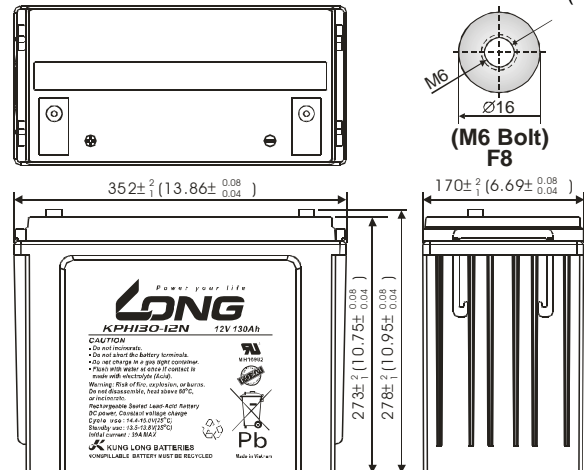
273+2-1 (10.75+0.08-0.04)

Overall Height (HT)

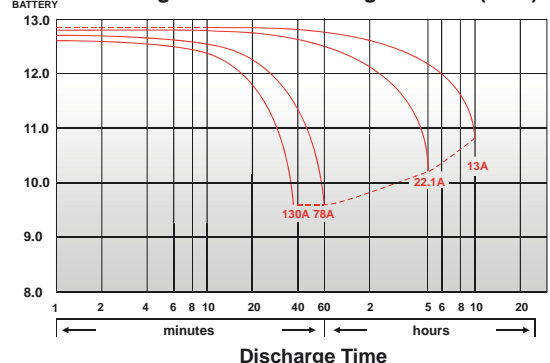
278+2-1 (10.95+0.08-0.04)

Description of torque value of hard ware for the terminals:

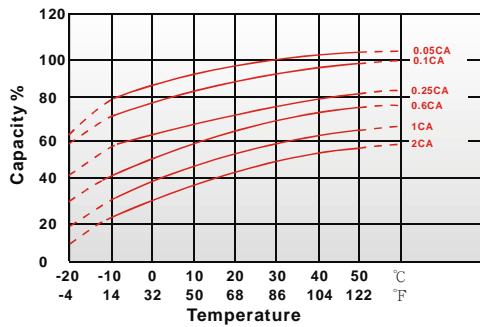
Recommended torque value M6: 7 N-m (71kgf-cm)
 Maximum allowable torque value M6: 10 N-m (102kgf-cm)
 mm(inch)



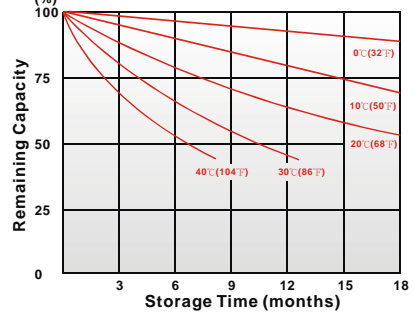
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



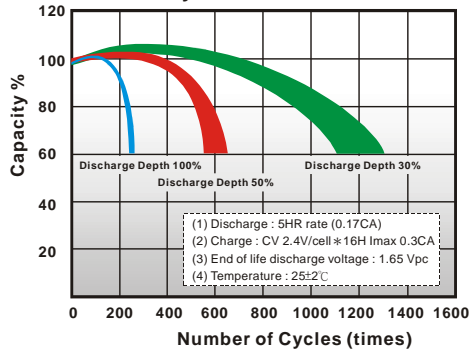
Effect of Temperature on Capacity 25°C(77°F)



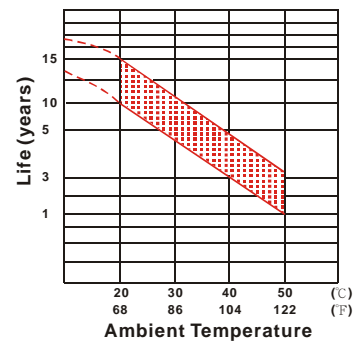
Capacity Retention Characteristic



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	min	409	470	495	518	528	539	559
10	min	345	364	389	408	415	423	435
15	min	223	257	261	271	275	278	283
30	min	143	149	155	159	160	161	163
60	min	82.0	85.2	88.2	90.7	91.7	92.8	94.5
120	min	62.7	65.0	67.3	69.2	70.0	71.0	72.3
180	min	48.7	51.7	53.5	55.0	55.5	56.2	57.2
240	min	42.3	44.7	46.2	47.3	47.7	48.2	48.8
300	min	24.3	25.3	26.0	26.7	26.8	27.2	27.5
600	min	12.0	12.5	12.9	13.2	13.3	13.5	13.5
1200	min							

- 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	229	260	292	308	316	324	340
10	min	182	211	232	247	250	256	262
15	min	113	128	136	143	145	147	152
30	min	57.8	66.4	73.5	78.9	80.1	81.4	83.6
60	min	37.4	42.4	44.7	45.8	46.5	47.3	48.6
120	min	28.4	31.3	34.4	35.0	35.5	36.2	37.2
180	min	22.4	24.6	27.1	27.7	28.0	28.4	28.9
240	min	20.7	22.0	22.9	23.5	23.7	23.9	24.2
300	min	12.0	13.0	13.1	13.1	13.2	13.2	13.3
600	min	6.00	6.50	6.57	6.63	6.70	6.74	6.78
1200	min							

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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