

Trickle use

Specifications

Nominal Voltage(V)

12V

Nominal Capacity

20 hour rate	(3A	to	10.50V)	60Ah
10 hour rate	(5.7A	to	10.50V)	57Ah
5 hour rate	(10.2A	to	10.20V)	51Ah
1C	(60A	to	9.60V)	38Ah
3C	(180A	to	9.60V)	24Ah

Weight

Approx. 20.5kg(45.1Lbs.)

Internal Resistance (at 1KHz)

Approx. 6.5 mΩ

Maximum Discharge Current for

5 seconds:720A

Charging Methods at 25°C(77°F)

Maximum Charging Current :	18A
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 & Standard

Expected Trickle Design Life: 6-9 years at 20°C according to Eurobat.

Terminal

F8



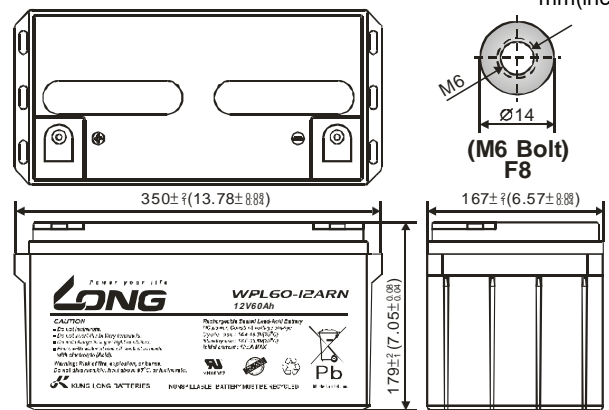
Dimensions

Length (L)	350±2-1 (13.78±0.08-0.04)
Width (W)	167±2-1 (6.57±0.08-0.04)
Height (H)	179±2-1 (7.05±0.08-0.04)
Overall Height (HT)	179±2-1 (7.05±0.08-0.04)

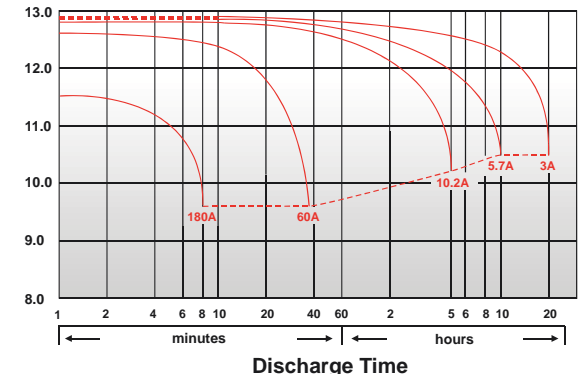
Description of torque value of hard ware for the terminals:

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

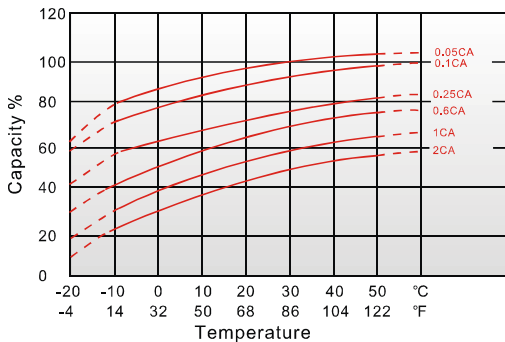
mm(inch)



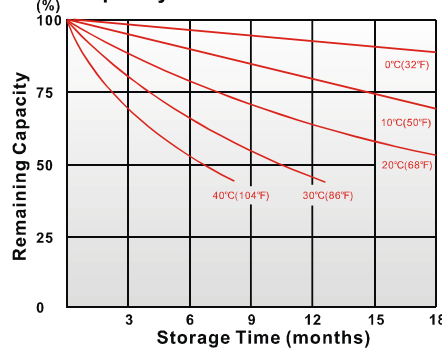
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



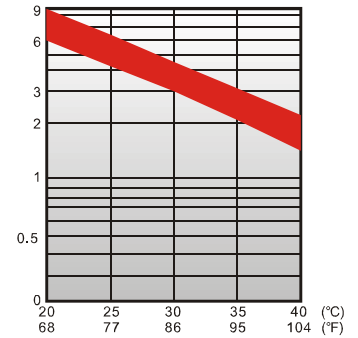
Effect of Temperature on Capacity 25°C(77°F)



Capacity Retention Characteristic



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	1.65V	1.60V
5	min	218	258	298	312	328	360
10	min	178	208	233	243	253	263
15	min	157	172	184	195	206	217
20	min	147	156	166	173	182	191
30	min	104	120	131	136	140	147
60	min	66.2	73.8	77.5	79.0	81.1	83.4
90	min	45.0	46.7	48.7	51.7	56.7	63.3
120	min	36.2	42.3	46.7	48.4	49.4	50.8
180	min	29.5	33.2	33.7	34.5	35.8	36.8
240	min	20.8	22.0	23.7	24.3	24.8	25.5
300	min	18.8	19.5	20.7	21.0	21.3	21.7
480	min	14.6	15.5	15.7	15.9	16.1	16.2
600	min	12.2	12.9	13.1	13.2	13.4	13.5
1200	min	6.76	6.82	6.87	7.01	7.09	7.12

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

End Voltage		1.85V	1.80V	1.75V	1.70V	1.65V	1.60V
5	min	127	140	168	182	197	211
10	min	105	120	131	137	142	154
15	min	81.8	98.9	108	112	119	125
20	min	69.0	77.9	83.8	86.7	91.2	94.8
30	min	56.2	64.1	66.7	67.5	68.2	70.2
60	min	36.7	37.7	39.5	40.7	42.1	43.7
90	min	25.5	26.6	28.9	29.6	30.4	31.7
120	min	19.9	21.7	22.5	23.0	23.6	24.4
180	min	16.6	17.9	18.3	18.6	19.0	19.3
240	min	11.3	11.9	12.3	12.6	13.0	13.3
300	min	9.59	10.2	10.5	10.8	11.1	11.5
480	min	7.40	7.85	7.98	8.10	8.22	8.30
600	min	6.18	6.32	6.58	6.67	6.81	6.84
1200	min	3.42	3.45	3.48	3.55	3.59	3.61

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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