

### Specifications

#### Nominal Voltage(V)

12V

#### Nominal Capacity

10	hour rate	(9A	to	10.80V)	90Ah
5	hour rate	(15.3A	to	10.20V)	76.5Ah
1	hour rate	(54A	to	9.60V)	54Ah

#### Weight

Approx. 29.0kg(63.8Lbs.)

#### Internal Resistance (at 1KHz)

Approx. 4.5 mΩ

#### Maximum Discharge Current for

5 seconds: 1080A

#### Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	14.4 to 15.0V
Coefficient -5.0mV/°C/cell	
Maximum Charging Current :	27A
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: 10-12 years at 20°C according to Eurobat.

#### Terminal

F18



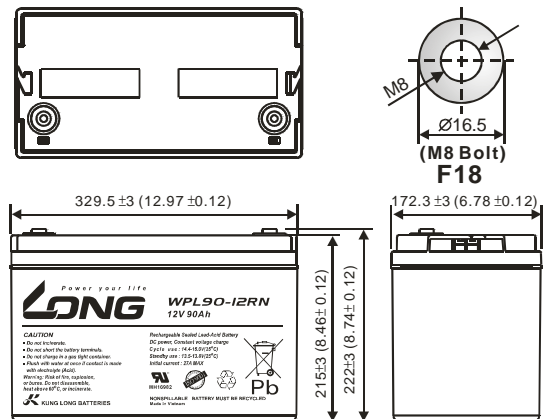
### Dimensions

Length (L)	329.5±3 (12.97±0.12)
Width (W)	172.3±3 (6.78±0.12)
Height (H)	215±3 (8.46±0.12)
Overall Height (HT)	222±3 (8.74±0.12)

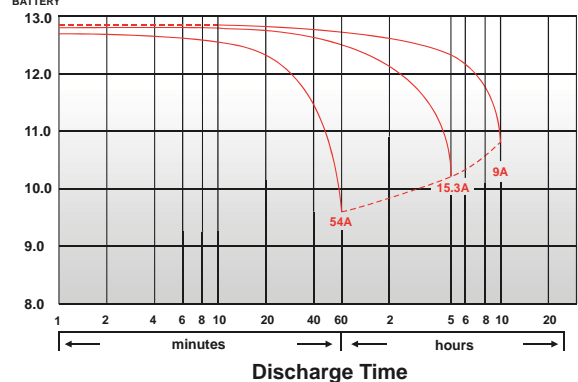
#### Description of torque value of hard ware for the terminals:

Recommended torque value	M8:12 N-m (122kgf-cm)
Maximum allowable torque value	M8:20 N-m (204kgf-cm)

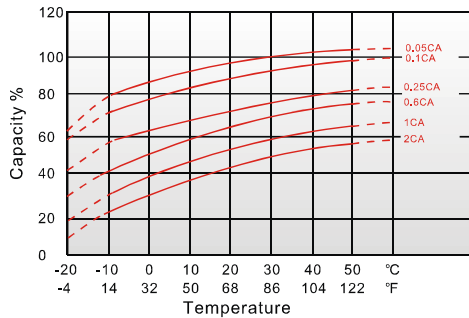
mm(inch)



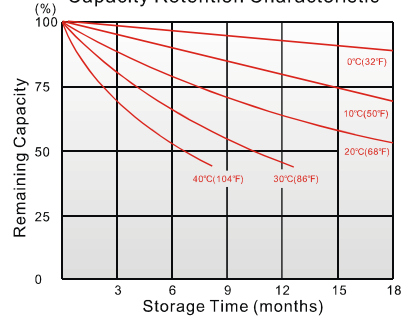
(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



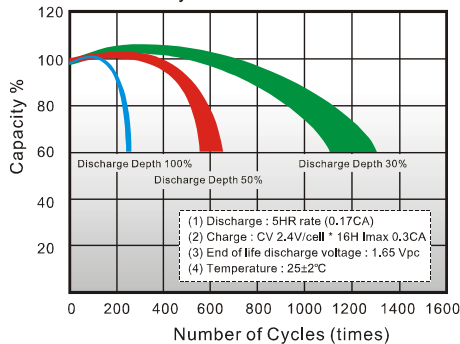
Effect of Temperature on Capacity 25°C(77°F)



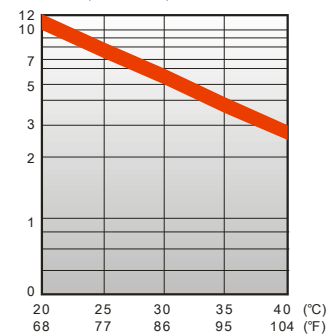
Capacity Retention Characteristic



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	1.65V	1.60V
Time							
10	min	301	322	335	353	381	409
15	min	238	260	275	299	312	323
20	min	196	213	234	240	247	251
30	min	156	161	166	172	180	192
60	min	107	119	122	123	124	124
120	min	69.8	71.3	72.5	73.3	74.3	75.0
180	min	43.3	46.7	48.3	48.7	49.7	50.8
300	min	29.0	31.2	32.7	33.0	33.5	33.8
600	min	16.0	16.6	17.1	17.3	17.4	17.7
1200	min	7.66	7.74	7.98	8.14	8.28	8.49

#### - 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
Time							
10	min	143	160	177	196	212	223
15	min	123	138	150	159	166	175
20	min	110	127	130	136	143	150
30	min	84.0	84.6	85.0	86.9	88.5	90.6
60	min	54.0	59.7	60.2	61.1	61.7	62.5
120	min	36.2	36.9	37.5	37.9	38.6	39.0
180	min	25.4	26.1	26.4	27.1	27.5	27.8
300	min	15.4	15.8	16.1	16.7	17.4	18.2
600	min	8.45	8.50	8.55	8.65	8.76	8.88
1200	min	4.23	4.25	4.30	4.34	4.40	4.46

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%)

210121-1H-V