

Specifications

Nominal Voltage(V)

12V

Nominal Power

15 mins rate: 780W/cell to 1.67V/cell

Nominal Capacity

20 hour rate	(11.5A to 10.50V)	230Ah
10 hour rate	(21.85A to 10.50V)	218.5Ah
8 hour rate	(25.3A to 10.50V)	202.4Ah
5 hour rate	(39.1A to 10.20V)	195.5Ah

Weight

Approx. 73.2kg(161Lbs.)

Internal Resistance (at 1KHz)

Approx. 2.5 mΩ

Maximum Discharge Current for

5 seconds: 1840A

Short Circuit Current (A) IEC 60896-21-22

4437 A

Charging Methods at 25°C(77°F)

Maximum Charging Current :	69A
Boost Charging Voltage	14.1 to 14.4V
Boost Charge Time	8-9Hr
Float Charging Voltage	13.5 to 13.65V
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	96%
6 month	94%

Case Material

ABS UL94 HB

Option: Flammability resistance of (UL94 V-0)

Battery Construction

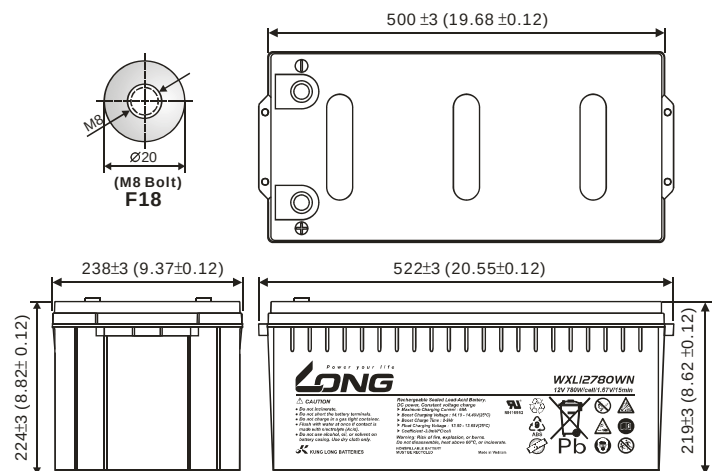
Component	Positive Plate	Negative plate	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	Rubber	Lead	AGM	Sulfuric acid



Dimensions

Length (L)	522±3(20.55±0.12)
Width (W)	238±3 (9.37±0.12)
Height (H)	219±3 (8.62±0.12)
Overall Height (HT)	224±3 (8.82±0.12)

mm(inch)



Terminal

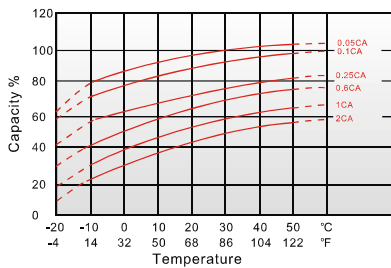
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Recommended torque value	M8:12 N-m (122 kgf-cm)
Maximum allowable torque value	M8:20 N-m (204 kgf-cm)

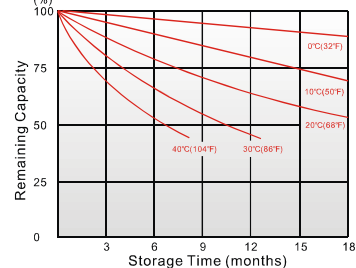
Design Life

Expected Trickle Design Life: 10-12 years at 20°C according to Eurobat.

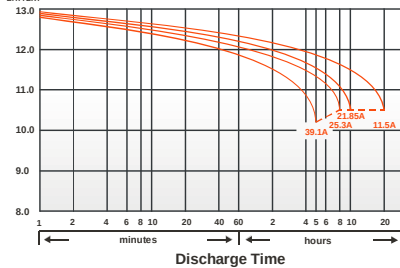
Effect of Temperature on Capacity 25°C(77°F)



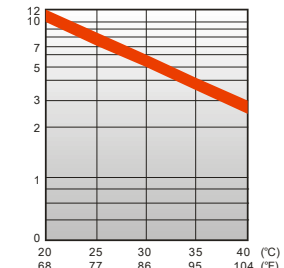
Capacity Retention Characteristic



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



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								
2	min	1225	1340	1450	1500	1545	1590	1610
4	min	1040	1160	1300	1360	1420	1480	1510
5	min	997	1114	1235	1315	1390	1420	1450
6	min	960	1030	1150	1270	1300	1320	1330
8	min	885	985	1080	1150	1190	1220	1250
10	min	835	915	985	1027	1067	1100	1120
15	min	732	780	840	875	905	930	950
20	min	610	670	730	750	755	760	763
30	min	470	525	540	555	570	585	595
40	min	395	425	455	465	475	480	483
45	min	365	385	403	415	425	435	445
60	min	248	263	278	291	301	311	320
90	min	205	212	218	224	229	234	238
120	min	160	165	168	171	173	175	176
180	min	105	113	118	122	125	128	130
240	min	87.5	89.5	91.3	92.8	94.3	95.1	95.5
300	min	79.5	80.3	81.1	81.6	82.1	82.6	83.0
480	min	49.5	49.9	50.2	50.5	50.8	50.9	51.0
600	min	42.2	42.8	43.4	43.8	44.1	44.4	44.7
1200	min	22.5	22.8	23.1	23.3	23.5	23.6	23.7

- 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								
2	min	600	705	805	875	925	960	990
4	min	560	640	700	775	845	895	940
5	min	540	620	678	730	775	820	865
6	min	522	595	645	690	725	760	795
8	min	470	540	605	640	670	700	730
10	min	445	505	560	600	630	640	650
15	min	400	440	480	505	525	545	560
20	min	330	380	410	420	430	440	450
30	min	240	275	300	310	318	323	328
40	min	215	235	237	239	240	241	242
45	min	195	212	227	231	233	234	234
60	min	132	139	148	153	160	165	168
90	min	106	110	113	116	119	122	125
120	min	74.0	82.0	86.5	89.7	92.7	94.7	95.5
180	min	54.7	58.7	61.5	63.9	66.1	68.1	70.0
240	min	45.0	47.0	48.8	50.1	51.4	52.2	52.5
300	min	38.5	41.0	43.5	43.7	43.8	43.9	44.0
480	min	26.2	26.8	27.0	27.1	27.2	27.2	27.3
600	min	22.5	23.5	24.0	24.1	24.1	24.2	24.2
1200	min	11.5	12.5	12.6	12.6	12.7	12.7	12.7

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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