



LIVEN LEVG Series-GEL Deep Cycle

- For longer cycle life: special paste formula, over dimensioned negative plate, optimised manufacturing process, additives for deep discharge. Up to 10 years
- Special anti-vibration desing
- Thick plates, special formula of paste and plate manufacturing process for a long service life
- ABS material: increase the strenght of battery container
- Special plate desing, long cycle life
- Using special lead-calcium alloy to boost up the grid anti-corrosive performance and extend the battery using life
- Special separators boost up the battery internal performance
- High thermal capacity, reduce the risk of thermal runaway and drying up, can be used in por environment
- High gas recombination efficiency
- Little wáter losing, no electrolyte stratification phenomenon
- Long storage time
- Good deep discharge resilience performance

Application:

- Railway and marine systems
- Electric toys
- Electric tools
- Portable power
- Vehicle in place of walking
- Wheelchairs
- Lawn mowers
- Medical equipments.
- Golf trolleys and golf cart



Specification:

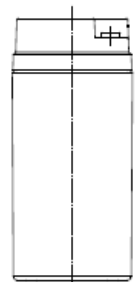
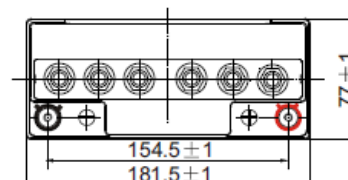
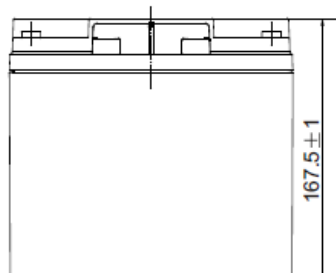
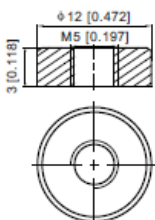
Nominal Voltage	12V
Nominal Capacity(20HR)	17.0AH
Dimension	Length 181.5±2mm (7.15 inches)
	Width 77±1mm (3.03 inches)
	Container Height 167.5±2mm (6.59 inches)
Approx Weight	Total Height (with Terminal) 167.5±2mm (6.59 inches)
Terminal	Approx 5.8 kg (12.8lbs)
Container Material	T12
Max. Discharge Current	ABS
Internal Resistance	204A (5s)
Operating Temp.Range	Approx 18mΩ
Nominal Operating Temp. Range	Discharge : -20~55°C (-4~131°F) Charge : 0~40°C (32~104°F) Storage : -20~50°C (-4~122°F)
Cycle Use	25±3°C (77±5°F)
Standby Use	Initial Charging Current less than 3.4A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C
Capacity affected by Temperature	No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C
Self Discharge	40°C (104°F) 103% 25°C (77°F) 100% 0°C (32°F) 86%



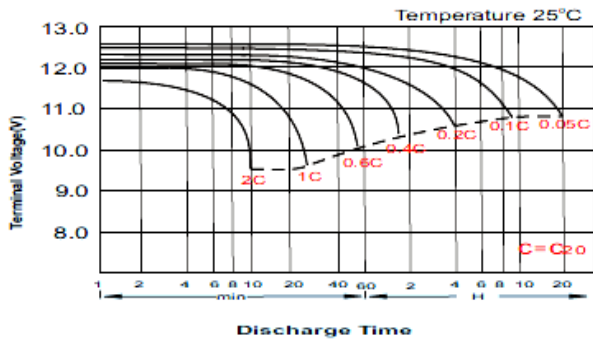
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Outer Dimensions:

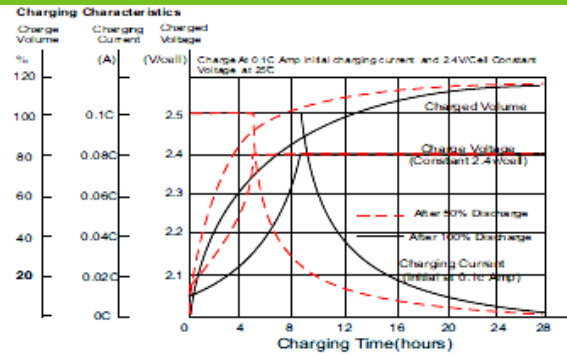
■ T12 Terminal Unit: mm [inches]



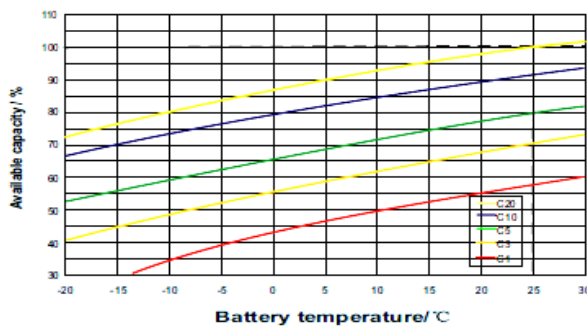
Discharge Characteristics



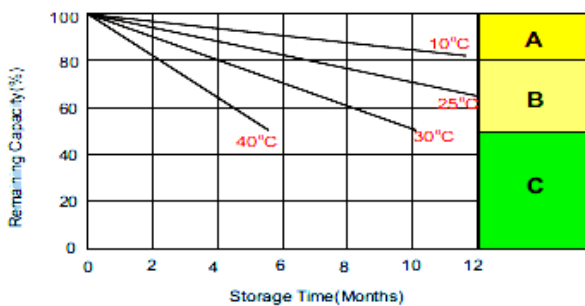
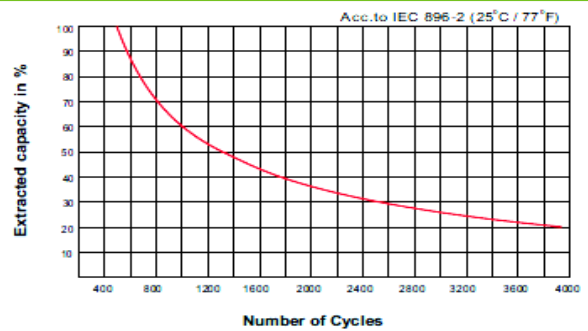
Capacity Retention Characteristic



Temperature Effects in Relation to Capacity



Cycle Life in Relation to Depth of Discharge



Self Discharge Characteristics

- A** No supplementary charge required
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
2. Charged for above 20hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8-10hours at limited current 0.05CA .
- C** Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this is reached.

Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	14.4	11.3	8.61	7.21	4.57	3.49	2.89	2.49	2.15	1.90	1.72	1.57	1.48	0.82
1.80V/cell	16.5	12.6	9.50	7.96	4.95	3.73	3.06	2.62	2.26	1.99	1.80	1.65	1.55	0.85
1.75V/cell	18.5	13.9	10.3	8.52	5.24	3.94	3.20	2.72	2.34	2.06	1.86	1.70	1.58	0.87
1.70V/cell	19.9	14.9	10.9	9.01	5.56	4.11	3.31	2.81	2.42	2.13	1.91	1.75	1.62	0.88
1.67V/cell	20.8	15.4	11.3	9.35	5.70	4.24	3.39	2.86	2.46	2.16	1.94	1.77	1.64	0.89
1.60V/cell	22.5	16.5	12.1	9.93	5.93	4.41	3.52	2.95	2.52	2.21	1.98	1.81	1.67	0.90

Constant Power Discharge (CP, Unit: W) at 25°C (77°F)

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	27.5	21.8	16.7	14.0	8.94	6.83	5.68	4.92	4.26	3.78	3.42	3.13	2.96	1.63
1.80V/cell	31.1	24.1	18.3	15.4	9.63	7.29	5.99	5.15	4.46	3.95	3.57	3.28	3.09	1.69
1.75V/cell	34.6	26.2	19.6	16.4	10.2	7.68	6.26	5.33	4.60	4.07	3.68	3.37	3.14	1.73
1.70V/cell	36.9	27.9	20.7	17.3	10.7	7.98	6.45	5.48	4.75	4.20	3.78	3.46	3.21	1.75
1.67V/cell	37.9	28.6	21.3	17.8	11.0	8.20	6.59	5.58	4.82	4.25	3.83	3.50	3.25	1.76
1.60V/cell	40.6	30.4	22.7	18.8	11.3	8.49	6.81	5.74	4.92	4.33	3.89	3.57	3.31	1.78