

LIVEN LVL Series

AGM (Absorbent Glass Material) technology with gas recombination. VRLA (Valve Regulated Lead Acid Battery). Maintenance-Free Sealed Lead Acid Battery. Battery with 12 years design life in float service.

Cycle use 1: Up to 260 cycles at 100% DOD.

Cycle use 2: Up to 500 cycles at 50% DOD.

Application:

- Telecommunications
- Uninterrupted Power Supplies
- Medical equipments
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply

Dimensions:

Length	151±1.5mm (5.94in)
Width	98±1.5mm (3.86in)
Height	95±1.5mm (3.74in)
Total Height	101±1.5mm (3.98in)



Specification:

Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	12.0Ah @10hour-rate to 1.80V per cell @25°C
Weight	Approx. 3.80Kg ±2% (8.38lbs)
Internal Resistance	Approx. 18.0mΩ
Terminal	F2
Max. Discharge Current	180A (5sec)
Design Life	12 years (Float charging) Eurobat (20°C): 10-12 years Long Life
Recommended Maximum Charging Current	3.60A
Standby Use Voltage	13.8V~13.9V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6V~14.8V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -15°C~50°C Charge: -10°C~45°C Storage: -15°C~50°C
Normal Operating Temperature Range	25°C±5°C

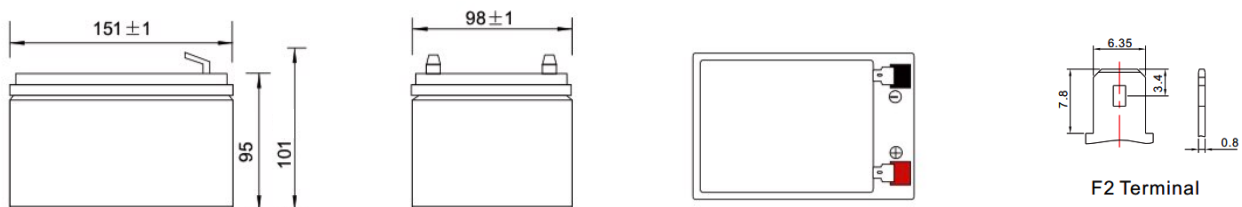
Self Discharge

LIVEN Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.

Container Material

A.B.S. UL94-HB, UL94-V0 Optional.

Technical Drawing:



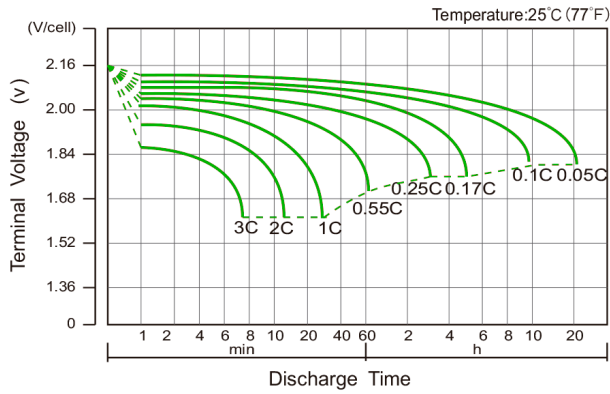
Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V/Time	10MIN	15MIN	20MIN	30MIN	45MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	20HR
1.60V	15.50	12.90	11.00	8.99	6.80	5.70	3.64	2.88	2.34	1.89	1.66	1.33	1.13	0.63
1.65V	19.80	15.60	13.00	10.60	7.91	6.39	3.97	3.10	2.49	2.03	1.78	1.41	1.20	0.64
1.70V	21.70	17.00	14.00	11.00	8.21	6.68	4.12	3.16	2.56	2.08	1.83	1.43	1.21	0.64
1.75V	23.70	18.20	14.70	11.50	8.54	6.90	4.28	3.25	2.62	2.13	1.86	1.45	1.22	0.65
1.80V	25.60	19.40	15.60	12.10	8.75	7.13	4.40	3.39	2.71	2.19	1.91	1.47	1.25	0.66
1.85V	27.80	20.70	16.70	12.80	9.12	7.38	4.55	3.49	2.79	2.27	1.95	1.49	1.26	0.67

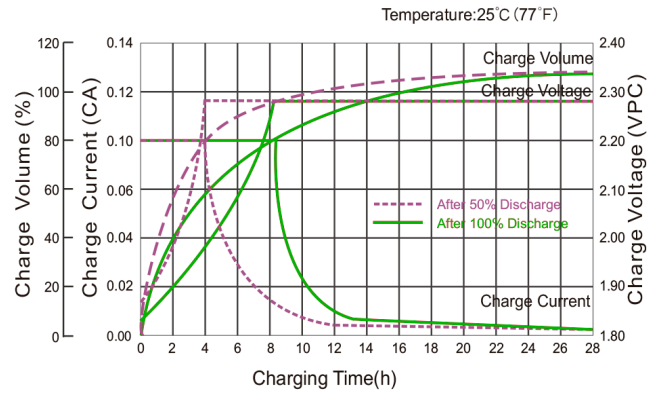
Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

F.V/Time	10MIN	15MIN	20MIN	30MIN	45MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	20HR
1.60V	174.60	147.60	126.60	105.00	79.80	67.20	43.20	34.32	27.90	22.62	19.92	15.96	13.68	7.62
1.65V	220.80	175.80	147.60	121.80	92.40	75.00	46.80	36.72	29.64	24.18	21.24	16.92	14.46	7.68
1.70V	238.80	189.60	157.20	125.40	94.80	78.00	48.36	37.26	30.24	24.72	21.78	17.16	14.58	7.75
1.75V	254.40	199.80	164.40	129.60	98.40	80.40	50.16	38.22	30.96	25.32	22.20	17.40	14.76	7.88
1.80V	272.40	210.60	173.40	135.60	99.60	82.20	51.30	39.72	31.86	25.92	22.62	17.64	15.00	7.97
1.85V	288.60	221.40	182.40	142.20	103.20	84.60	52.74	40.74	32.76	26.70	23.04	17.76	15.18	8.01

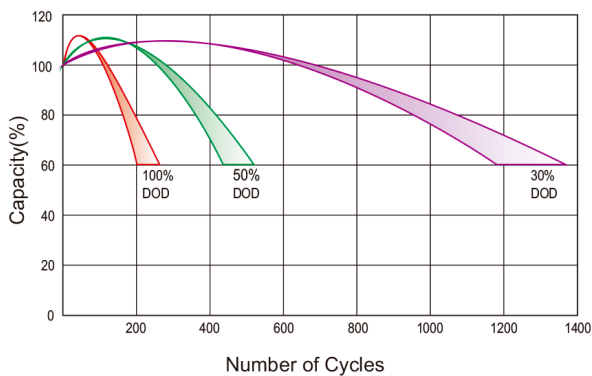
Discharge Characteristics Curve



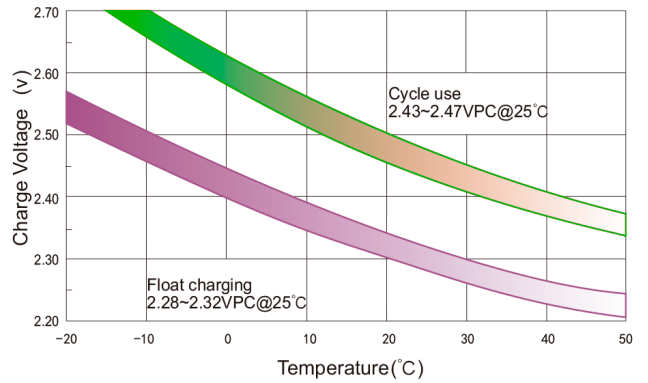
Charge Characteristic Curve For Standby Use



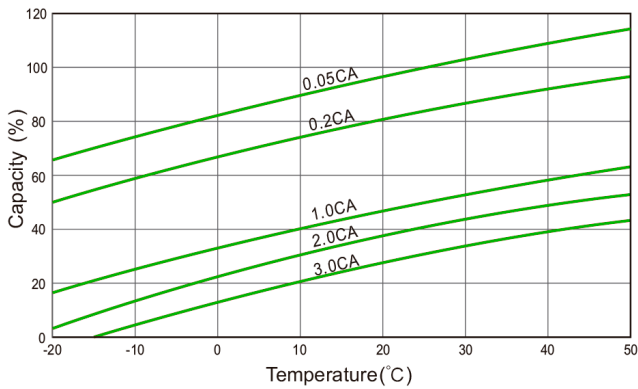
Cycle Life In Relation To Depth Of Discharge



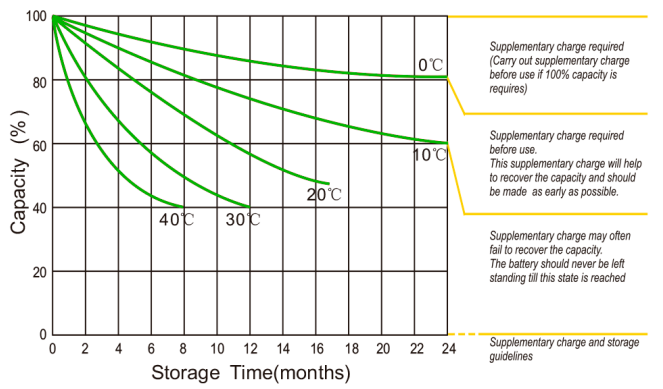
Relationship Between Charging Voltage And Temperature



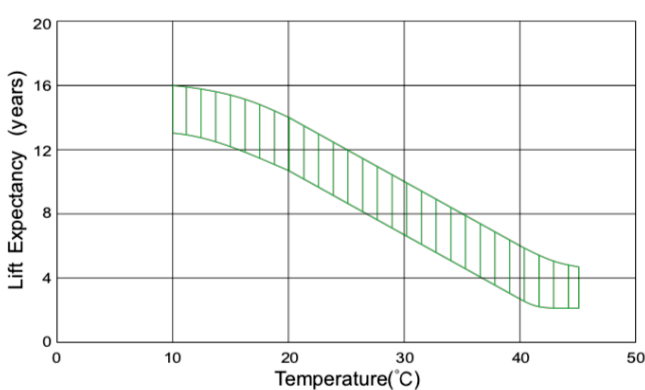
Temperature Effects On Capacity



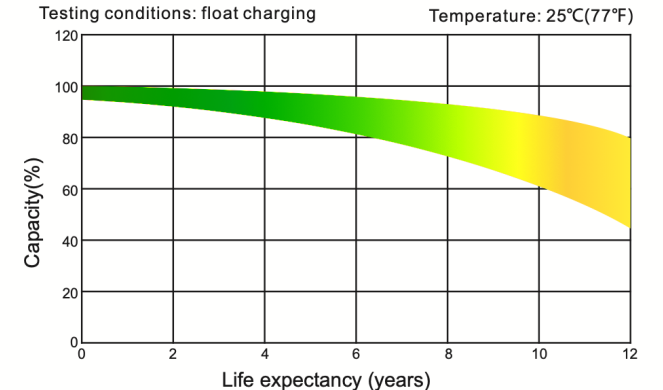
Storage Characteristics



Effect Of Temperature On Long Term Life



Life Characteristics Of Standby Use



(Note) All above information shall be changed without prior notice. LIVEN Battery reserves the right to explain and update the latest information.