



LIVEN LEV Series

AGM (Absorbent Glass Material) technology with gas recombination. VRLA (Valve Regulated Lead Acid Battery). LEV (Liven Electric Vehicle) series is specially designed for frequent discharge deep cycle application. Maintenance-Free Sealed Lead Acid Battery.

Cycle use 1: Up to 600 cycles at 80% DOD.

Cycle use 2: Up to 1200 cycles at 50% DOD.

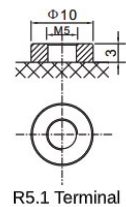
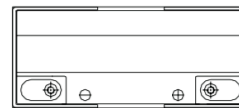
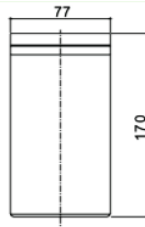
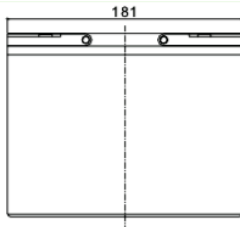
Applications:

- Electric Vehicle
- Industrial equipment
- Floor machines
- Forklifts
- Golf cart
- Mobility
- Aerial lifts and Robotics
- No-idle solutions

Dimensions:

Length	181±1.5mm (7.13in)
Width	77±1.5mm (3.03in)
Height	170±1.5mm (6.69in)
Total Height	170±1.5mm (6.69in)

Technical Drawings:



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

F.V. / Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	100.3	65.79	49.00	28.17	16.53	9.433	6.662	5.209	4.348	2.938	2.430	1.248
1.65V	96.63	63.59	47.53	27.58	16.22	9.273	6.561	5.138	4.294	2.905	2.406	1.237
1.70V	91.80	60.73	45.61	26.79	15.81	9.060	6.425	5.042	4.222	2.861	2.373	1.222
1.75V	85.37	56.91	43.02	25.73	15.24	8.768	6.239	4.911	4.123	2.801	2.328	1.200
1.80V	76.83	51.79	39.54	24.27	14.47	8.366	5.981	4.728	3.985	2.717	2.265	1.171
1.85V	65.31	44.79	34.73	22.21	13.36	7.789	5.610	4.464	3.785	2.594	2.173	1.129

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

F.V. / Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	1021.2	670.8	514.0	307.0	185.5	107.3	76.4	60.0	50.3	34.4	28.7	14.8
1.65V	1009.2	666.0	509.0	305.0	183.9	106.2	75.7	59.5	49.9	34.1	28.4	14.6
1.70V	969.6	643.2	492.7	298.0	179.8	104.1	74.3	58.5	49.2	33.7	28.1	14.5
1.75V	918.0	613.2	471.5	289.1	174.3	101.2	72.4	57.2	48.2	33.0	27.5	14.2
1.80V	840.6	567.8	439.4	275.5	166.2	97.1	69.7	55.3	46.7	32.1	26.9	13.9
1.85V	727.2	499.9	391.6	254.6	154.6	90.8	65.7	52.4	44.5	30.7	25.8	13.4

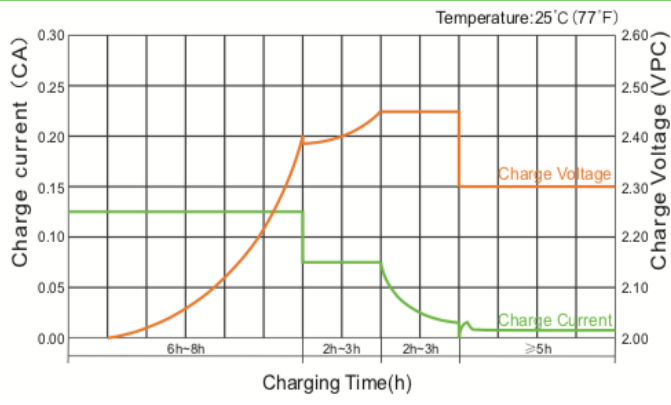
Specifications:

Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	24.0Ah @20hour-rate to 1.75V per cell @25°C
Weight	Approx. 7.00Kg ±2% (15.43lbs)
Internal Resistance	Approx. 10.0mΩ
Terminal	R5.1
Max. Discharge Current	288A (5sec)
Cold Cranking Ampere (CCA)	205A
Recommended Max. Charging Current	7.20A
Standby Use Voltage	13.7V~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

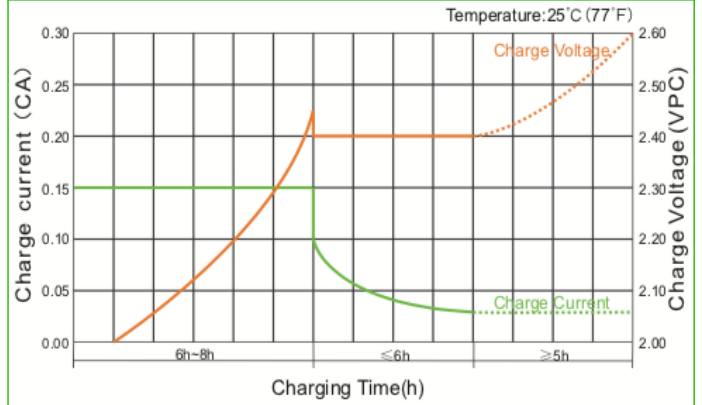
Self Discharge
LIVEN Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.

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

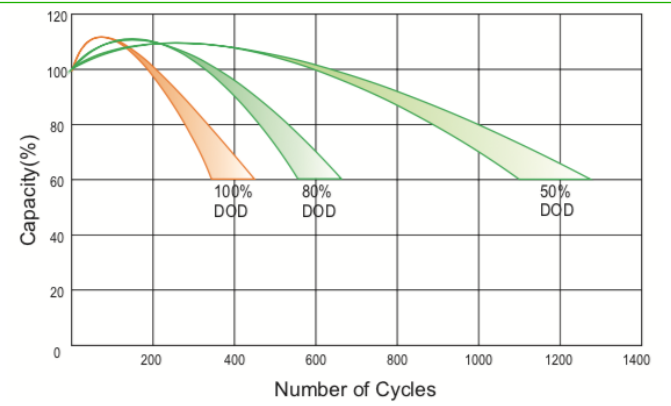
Charge Characteristic Curve For Cycle Use (IIUU)



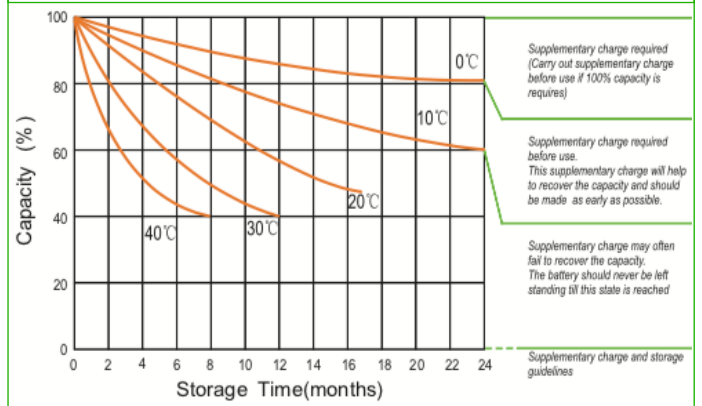
Charge Characteristic Curve For Cycle Use (IUI)



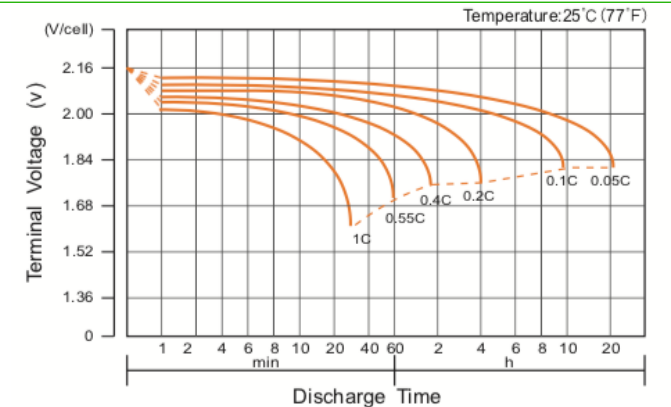
Cycle Life In Relation To Depth Of Discharge



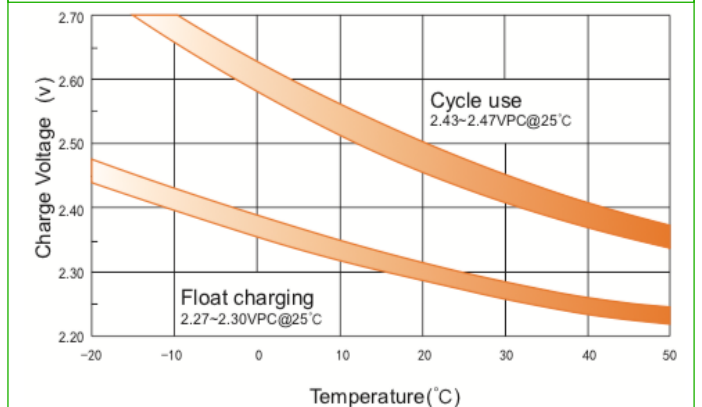
Storage Characteristics



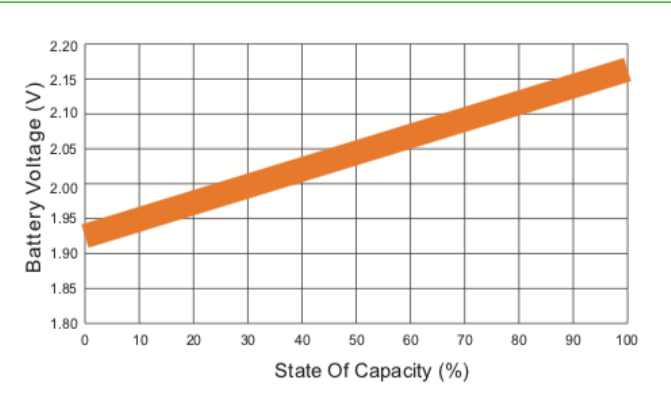
Discharge Characteristics Curve



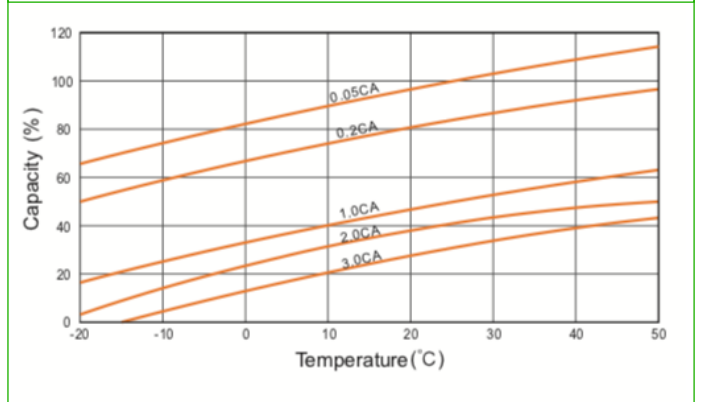
Relationship Between Charging Voltage And Temperature



Relationship of OCV And State of Charge (20°C)



Temperature Effects On Capacity



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