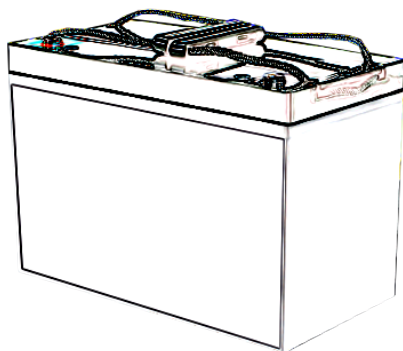




LIVEN LEV Series

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 260 cycles at 100% DOD.

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

Application:

- Electric Vehicle
- Golf cart
- Industrial equipment
- Floor machines
- Forklifts
- Aerial lifts and Robotics
- Marine
- RV
- No-idle solutions
- Mobility
- Medical equipment
- Outdoor application

Dimensions:

Length	260±2mm (10.2 inches)
Width	169±2mm (6.65 inches)
Height	180±2mm (7.09 inches)
Total Height	185±2mm (7.28 inches)

Specification:

Cells Per Unit	6
Voltage Per Unit	12
Nominal Capacity	64Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 20.0 Kg ±2%
Internal Resistance	Approx. 6.5 mΩ
Terminal	R6.0
Max. Discharge Current	600 A (5 sec)
Cold Cranking Ampere (CCA)	390A
Recommended Maximum Charging Current	18.0A
Standby Use Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
Normal Operating Temperature Range	25°C±5°C

Self Discharge

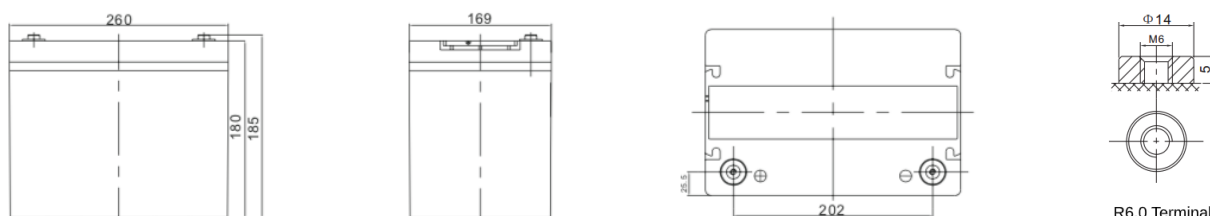
LIVEN Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.

Container Material

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



Drawing:



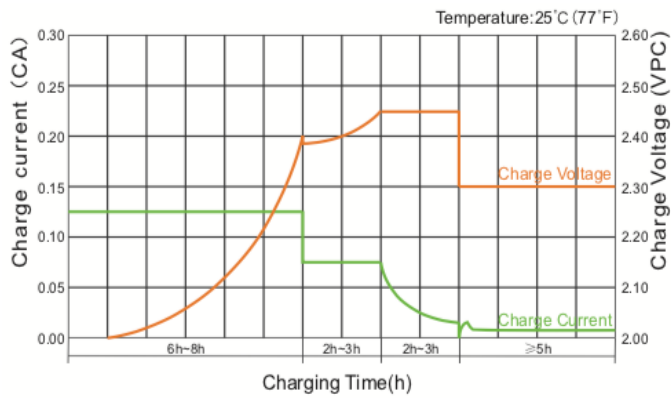
Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	201.8	152.3	114.6	67.0	37.0	21.9	16.9	13.3	11.3	7.61	6.33	3.31
1.65V	194.5	143.9	109.5	64.3	35.8	21.2	16.4	13.0	11.0	7.53	6.25	3.26
1.70V	185.0	132.5	102.6	61.5	34.6	20.5	16.0	12.6	10.7	7.41	6.16	3.22
1.75V	172.9	121.3	95.5	58.8	33.3	19.8	15.5	12.3	10.5	7.31	6.08	3.18
1.80V	157.5	109.8	88.2	56.2	32.1	19.0	15.0	11.9	10.21	7.19	6.00	3.15
1.85V	138.6	89.7	73.2	48.4	28.7	17.5	13.9	11.1	9.52	6.75	5.65	2.99

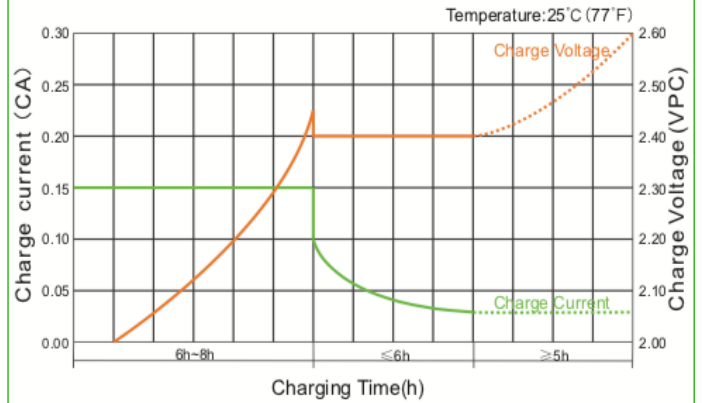
Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	2084.4	1553.4	1201.8	730.2	417.6	248.4	194.4	153.6	130.8	89.4	74.4	39.1
1.65V	2062.2	1495.8	1165.8	708.6	405.6	241.8	189.0	150.0	128.4	88.2	73.8	38.6
1.70V	1983.6	1402.8	1108.2	684.0	394.8	235.2	184.8	146.4	125.4	87.0	72.6	38.2
1.75V	1886.4	1306.8	1046.4	660.6	382.8	228.0	180.0	142.8	122.4	86.4	72.0	37.7
1.80V	1749.0	1203.6	979.8	637.8	370.2	220.8	175.2	139.2	120.0	85.2	71.4	37.4
1.85V	1566.0	1001.4	825.0	554.4	334.2	203.4	162.6	130.2	112.2	79.8	67.2	35.5

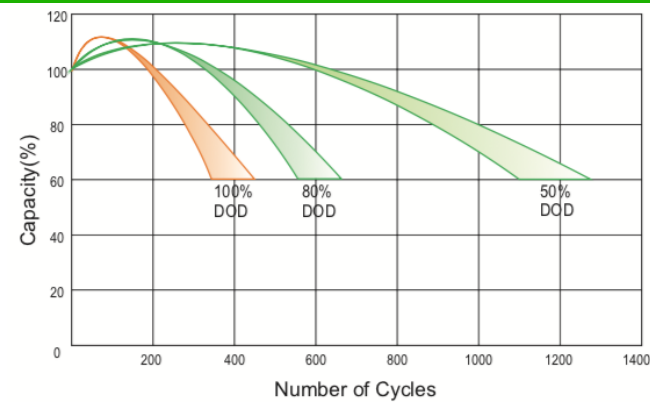
Charge Characteristic Curve For Cycle Use (IIUU)



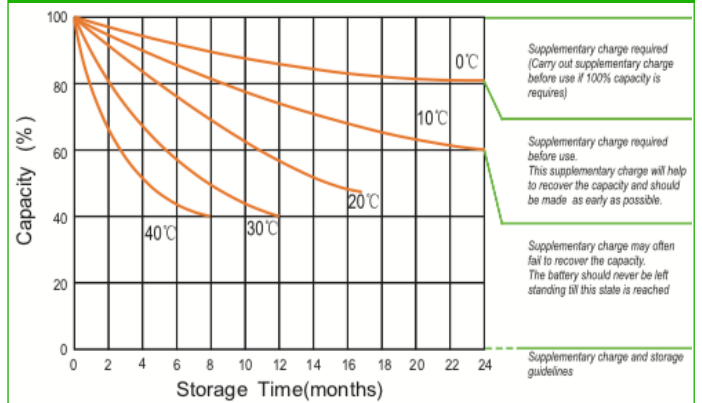
Charge Characteristic Curve For Cycle Use (IUI)



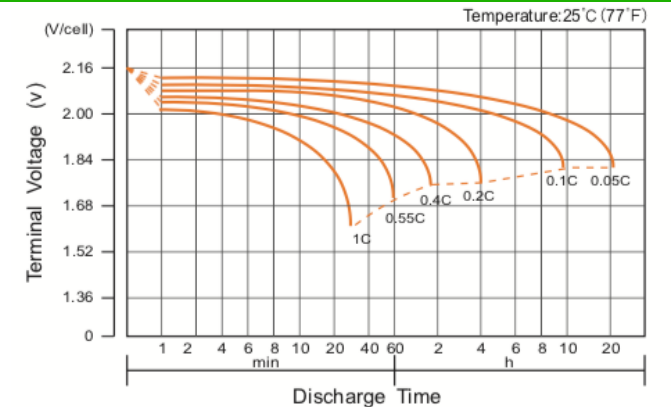
Cycle Life In Relation To Depth Of Discharge



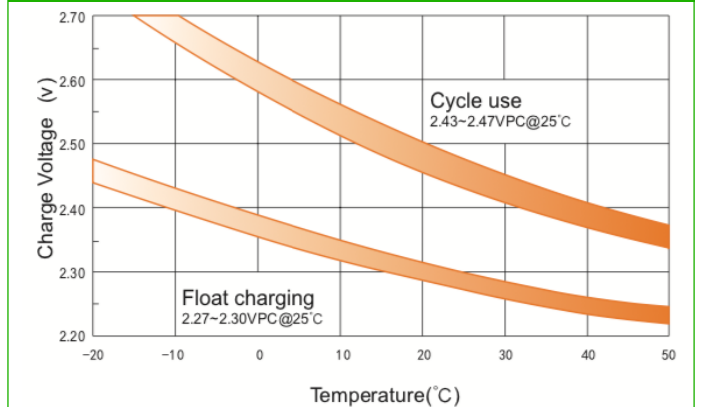
Storage Characteristics



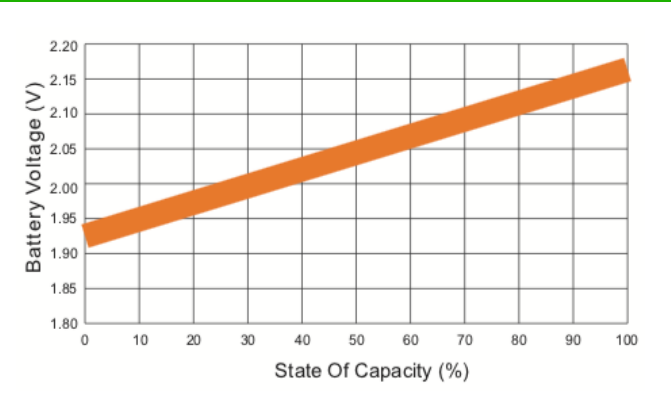
Discharge Characteristics Curve



Relationship Between Charging Voltage And Temperature



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



Temperature Effects On Capacity

