



LIVEN LVJ Series

LVJ Hybrid Gel series are manufactured with AGM separator (Absorbent Glass Material) and patented Gel electrolyte. The LVJ series Valve Regulated Lead Acid (VRLA) is Hybrid Gel battery with 12 years floating design life. This battery is ideal for standby or frequent cyclic discharge applications.

The number of deep discharge cycles is increase much compared with normal AGM, 400 cycles at 100% DOD.

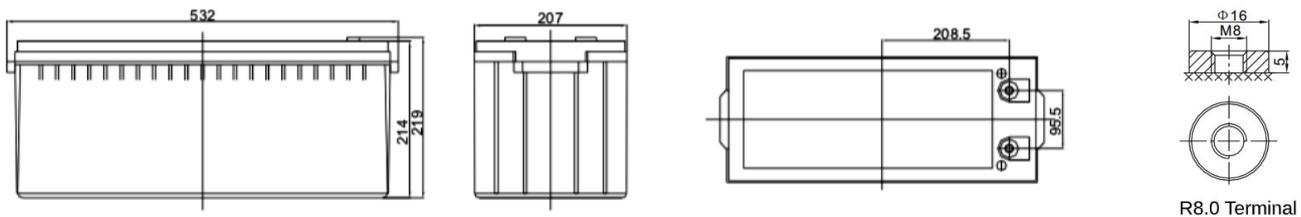
Applications:

- Telecommunications
- Uninterrupted Power Supplies
- Medical equipments
- Solar System
- Wind Power System
- Auto Control System

Dimensions:

Length	532±1.5mm (20.9in)
Width	207±1.5mm (8.15in)
Height	214±1.5mm (8.43in)
Total Height	219±1.5mm (8.62in)

Technical Drawings:



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

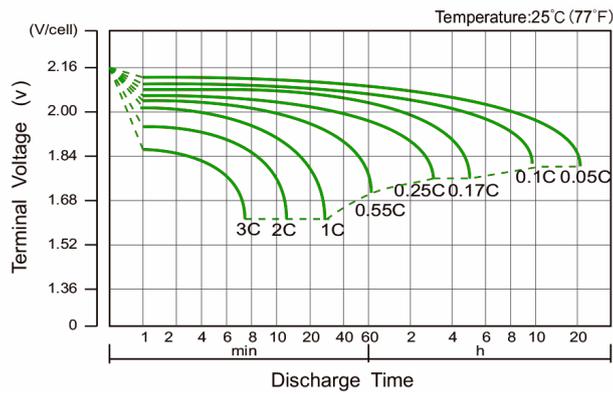
F.V. / Time	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	328.2	261.2	153.1	92.0	56.2	42.3	33.5	28.2	19.3	16.3	8.31
1.65V	317.2	253.4	149.9	90.3	55.3	41.7	33.0	27.9	19.0	16.2	8.24
1.70V	303.0	243.2	145.6	88.0	54.0	40.8	32.4	27.4	18.8	15.9	8.14
1.75V	283.9	229.4	139.8	84.8	52.3	39.6	31.6	26.8	18.4	15.6	8.00
1.80V	258.3	210.8	131.9	80.5	49.9	38.0	30.4	25.9	17.8	15.2	7.80
1.85V	223.5	185.2	120.7	74.3	46.4	35.6	28.7	24.6	17.0	14.6	7.52

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

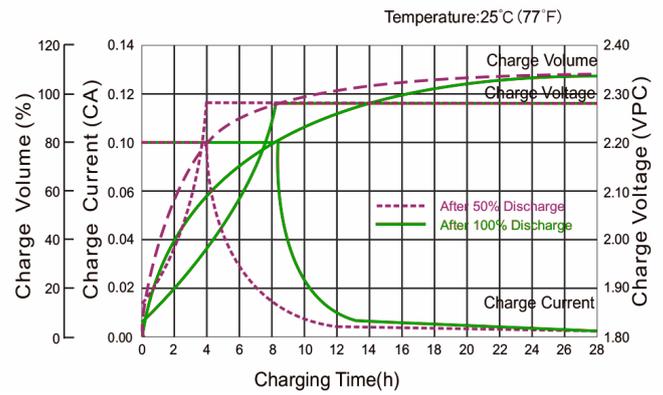
F.V. / Time	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	3522.0	2886.0	1758.0	1086.0	672.0	510.6	406.2	343.8	237.6	202.8	103.2
1.65V	3498.0	2856.0	1746.0	1080.0	666.0	505.8	402.6	340.8	235.8	201.0	102.6
1.70V	3378.0	2766.0	1704.0	1056.0	654.0	496.8	396.0	336.0	232.2	198.6	101.4
1.75V	3222.0	2646.0	1656.0	1020.0	636.0	484.2	387.0	329.4	228.0	195.0	99.6
1.80V	2982.0	2466.0	1578.0	972.0	606.0	466.2	373.8	319.2	221.4	189.6	97.8
1.85V	2622.0	2196.0	1458.0	906.0	570.0	439.2	354.6	304.2	211.8	182.4	94.2

Specifications:	
Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	160Ah @20hour-rate to 1.75V per cell @25°C
Weight	Approx. 50.0Kg ±2% (110.25lbs)
Internal Resistance	Approx. 4.0mΩ
Terminal	R8.0
Max. Discharge Current	1600A (5sec)
Design Life	12 years floating Eurobat (20°C): 10-12 years Long Life
Recommended Max. Charging Current	48.0A
Standby Use Voltage	13.6V~13.8V @ 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: -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.

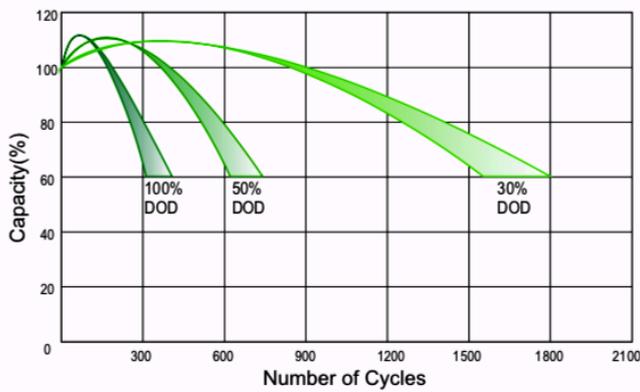
Discharge Characteristics Curve



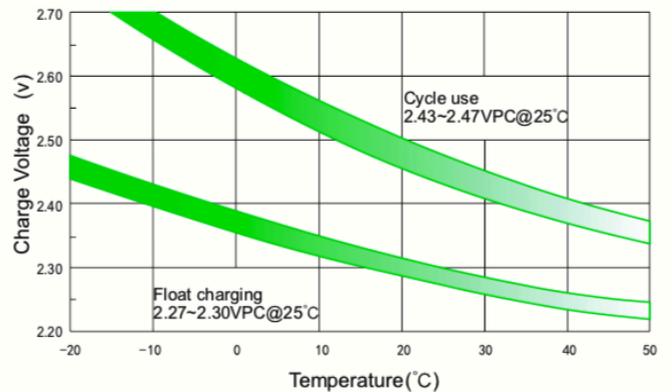
Charge Characteristic Curve For Standby Use



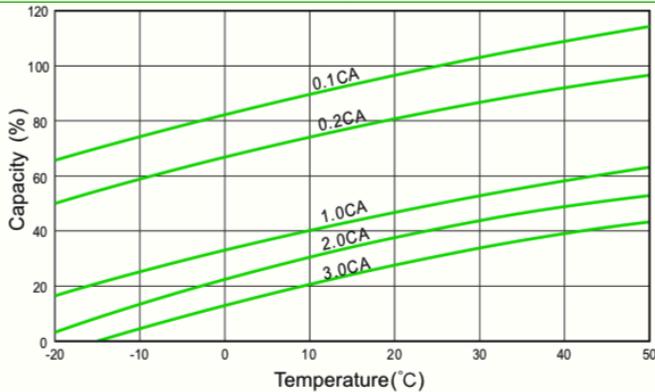
Cycle Life In Relation To Depth Of Discharge



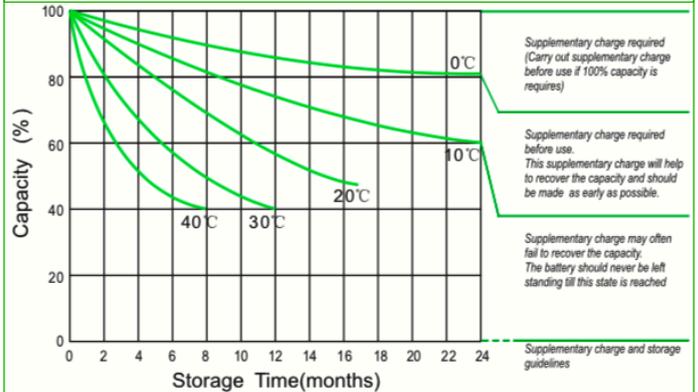
Relationship Between Charging Voltage And Temperature



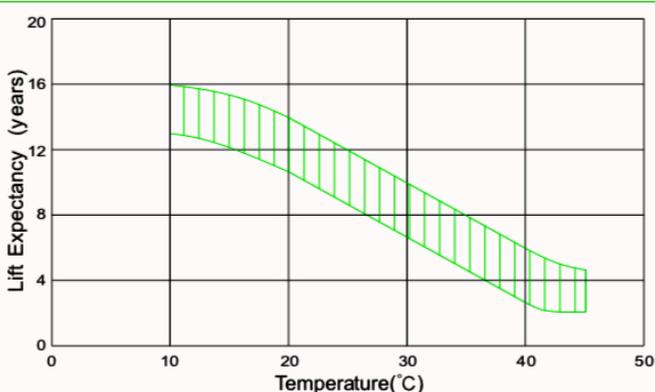
Temperature Effects On Capacity



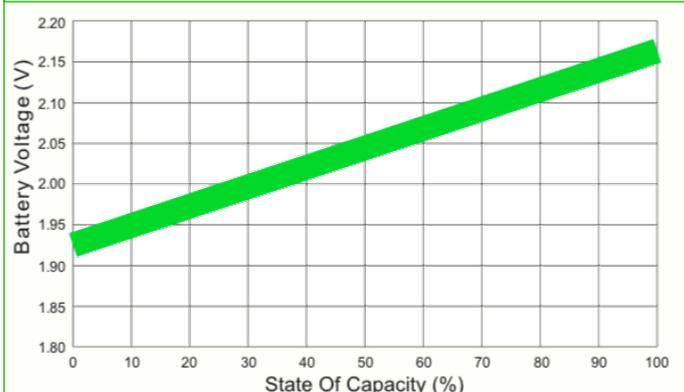
Storage Characteristics



Effect Of Temperature On Long Term Life



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



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