



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

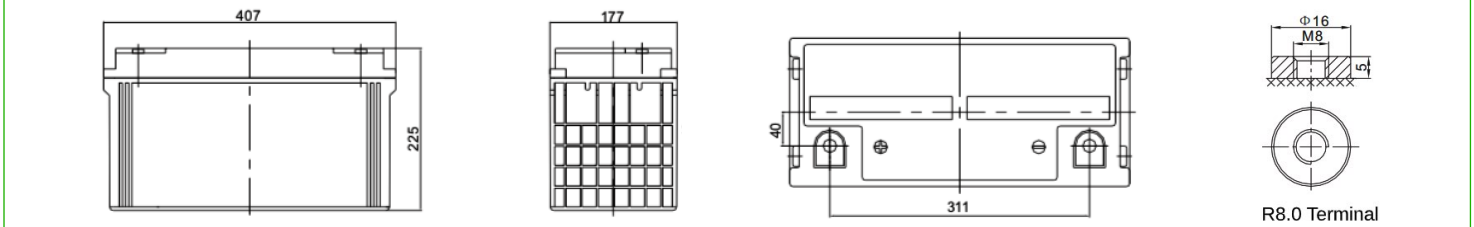
Dimensions:

Length	407±1.5mm (16.0in)
Width	177±1.5mm (6.97in)
Height	225±1.5mm (8.86in)
Total Height	225±1.5mm (8.86in)

Specifications:

Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	120Ah @20hour-rate to 1.75V per cell @25°C
Weight	Approx. 35.0Kg ±2% (77.18lbs)
Internal Resistance	Approx. 4.0mΩ
Terminal	R8.0
Max. Discharge Current	1200A (5sec)
Design Life	12 years floating Eurobat (20°C): 10-12 years Long Life
Recommended Max. Charging Current	36.0A
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.

Technical Drawings:



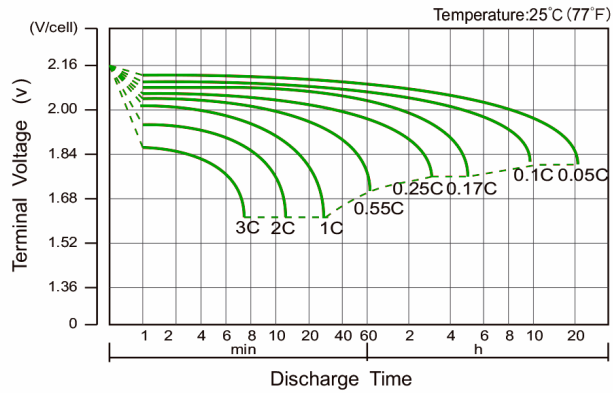
Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V. / Time	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	259.6	200.1	116.0	68.3	42.2	31.7	25.1	21.2	14.4	12.2	6.24
1.65V	251.0	194.1	113.6	67.0	41.5	31.3	24.8	20.9	14.3	12.1	6.18
1.70V	239.7	186.2	110.4	65.3	40.5	30.6	24.3	20.5	14.1	11.9	6.10
1.75V	224.6	175.7	106.0	63.0	39.2	29.7	23.7	20.1	13.8	11.7	6.00
1.80V	204.4	161.5	100.0	59.7	37.4	28.5	22.8	19.4	13.4	11.4	5.85
1.85V	176.8	141.8	91.5	55.2	34.8	26.7	21.5	18.4	12.8	10.9	5.64

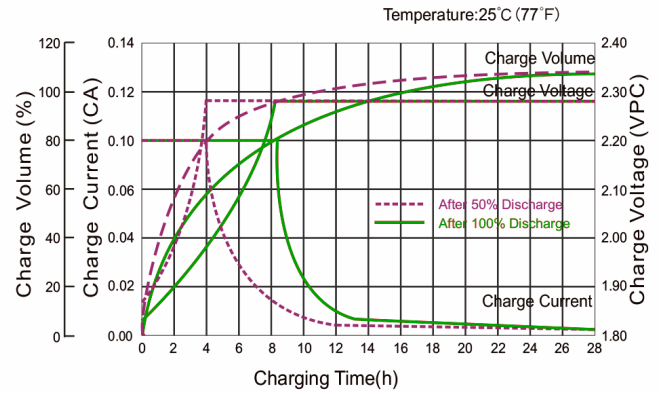
Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

F.V. / Time	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	2790.0	2208.0	1332.0	804.0	504.6	382.8	304.2	257.4	178.2	151.8	77.4
1.65V	2766.0	2190.0	1320.0	798.0	499.8	379.2	301.8	255.6	177.0	150.6	76.8
1.70V	2670.0	2118.0	1290.0	780.0	489.6	372.6	297.0	252.0	174.0	148.8	76.2
1.75V	2550.0	2028.0	1254.0	756.0	476.4	363.0	290.4	247.2	171.0	146.4	75.0
1.80V	2358.0	1890.0	1194.0	720.0	456.6	349.8	280.2	239.4	166.2	142.2	73.2
1.85V	2076.0	1686.0	1104.0	672.0	427.8	329.4	265.8	228.0	159.0	136.8	70.8

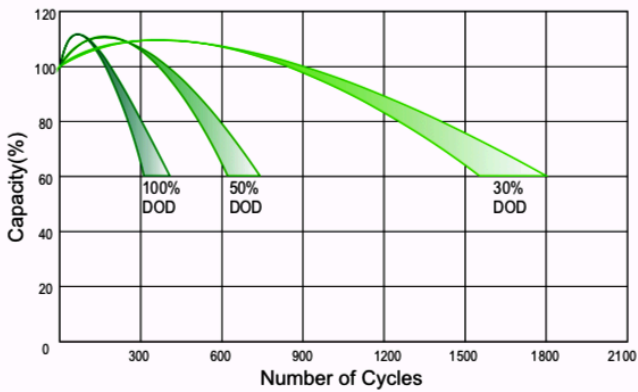
Discharge Characteristics Curve



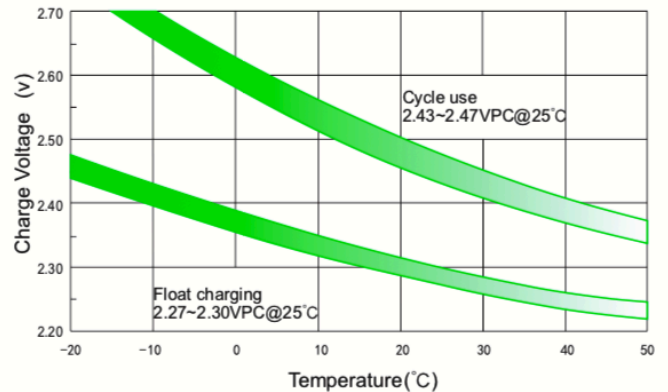
Charge Characteristic Curve For Standby Use



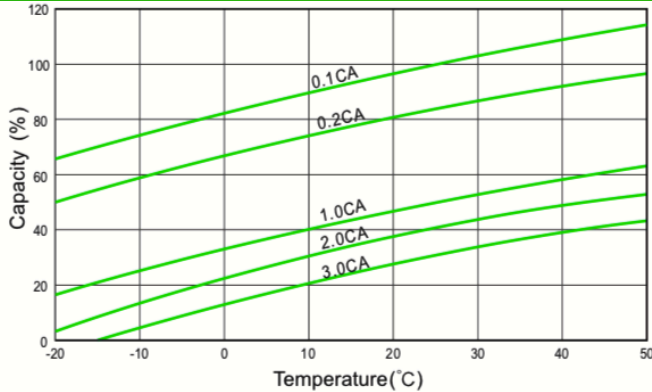
Cycle Life In Relation To Depth Of Discharge



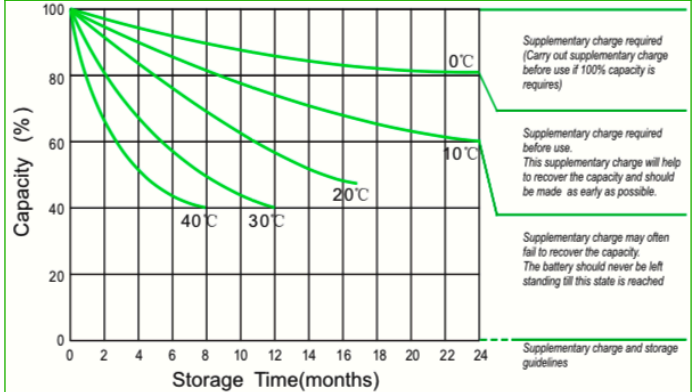
Relationship Between Charging Voltage And Temperature



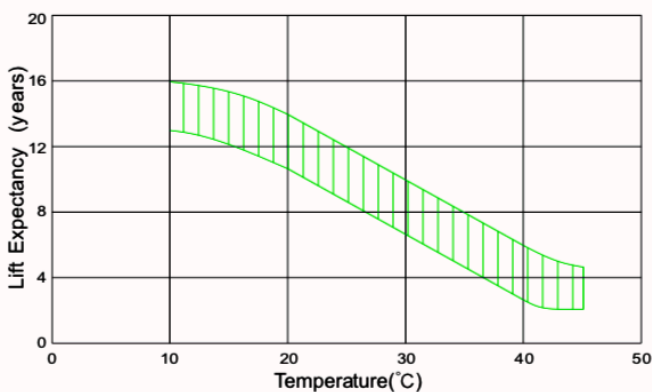
Temperature Effects On Capacity



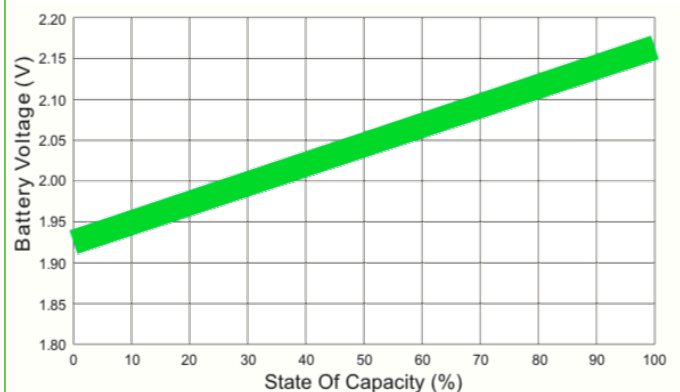
Storage Characteristics



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.