



LIVEN LVH Series

AGM (Absorbent Glass Material) technology with gas recombination. The LVH series Valve Regulated Lead Acid (VRLA) battery is designed for heavy load discharge applications with 15 years design life in float service.

By using strong grids and specially designed active material is with lower I.R, lower self discharge rate, high power, and longer service life performance.

Generally the LVH series offers 30% more power output than the standard range.

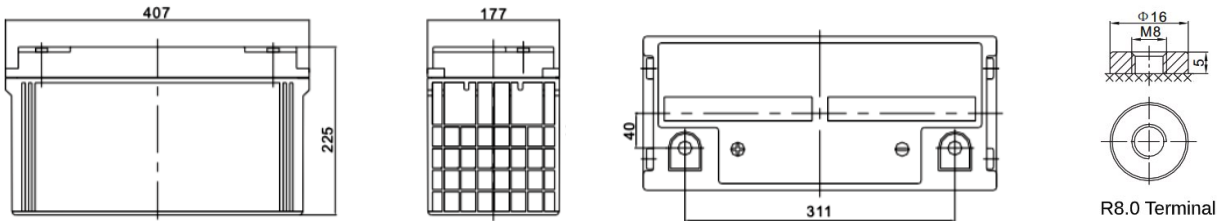
Applications:

- High Power
- UPS
- Datacenters
- Emergency backup PW
- Security system
- Communication power supply
- DC power supply
- Electric Tools

Dimensions:

Length	407±1mm (16.0in)
Width	177±1mm (6.97in)
Height	225±1mm (8.86in)
Total Height	225±1mm (8.86in)

Technical Drawings:



Specifications:

Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	450W @15min-rate to 1.67V per cell @25°C
Weight	Approx. 36.50Kg ±2% (80.47lbs)
Internal Resistance	Approx. 4.5mΩ
Terminal	R8.0
Max. Discharge Current	1200A (5sec)
Design Life	15 years floating Eurobat (20°C): >12 years Very Long Life
Recommended Maximum Charging Current	36.0A
Reference Capacity	C20 120Ah
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: -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.

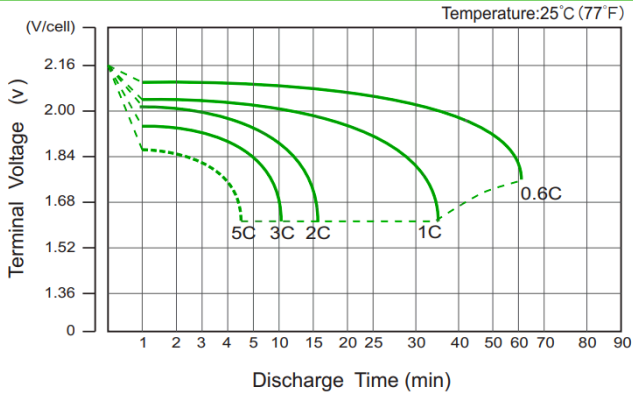
Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V./ Time	5min	8min	10min	15min	20min	30min	60min	90min
1.60V	404.7	342.5	319.7	248.9	202.6	149.4	86.4	62.0
1.67V	367.3	314.1	295.4	232.1	190.5	141.3	82.5	59.5
1.70V	351.7	301.9	284.8	225.0	185.1	137.9	80.8	58.4
1.75V	324.7	281.2	267.0	212.9	175.9	132.1	78.0	56.5
1.80V	297.5	260.4	249.2	201.4	167.6	126.5	75.2	54.7
1.85V	255.3	221.8	211.1	173.2	145.5	111.9	67.9	49.9

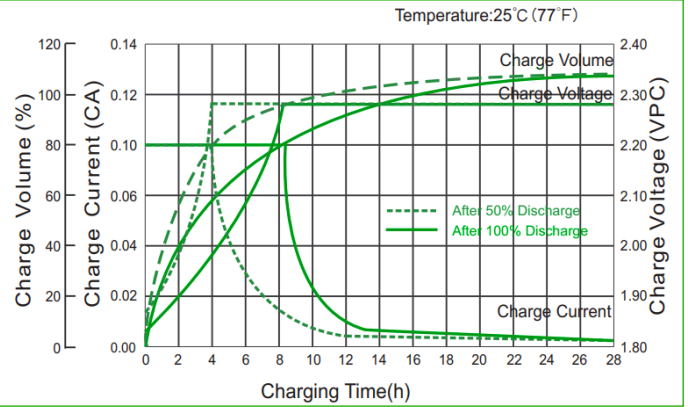
Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

F.V./ Time	5min	8min	10min	15min	20min	30min	60min	90min
1.60V	4462.2	3826.8	3607.2	2846.4	2337.0	1741.2	973.8	704.4
1.67V	4153.2	3590.4	3404.4	2700.0	2230.2	1669.8	937.2	681.0
1.70V	4016.4	3482.4	3309.6	2637.6	2182.2	1636.2	922.2	671.4
1.75V	3769.2	3291.0	3143.4	2523.6	2094.6	1582.2	897.0	653.4
1.80V	3508.2	3089.4	2968.2	2411.4	2015.4	1526.4	870.0	635.4
1.85V	3055.8	2668.2	2548.2	2095.8	1765.8	1362.0	791.4	584.4

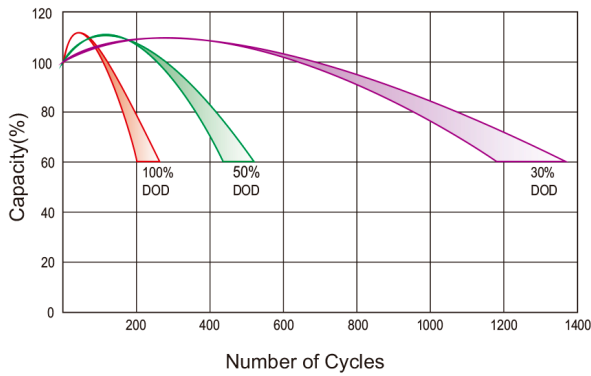
Discharge Characteristics Curve



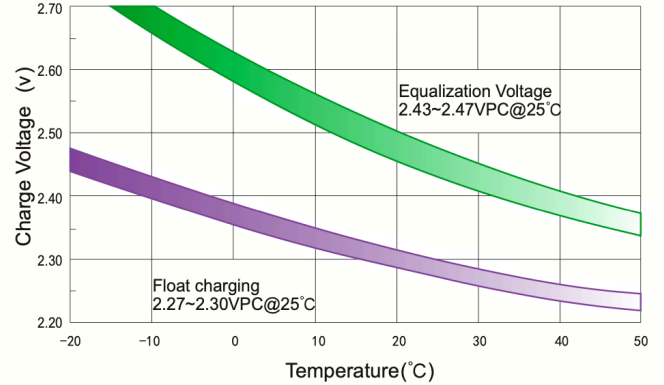
Charge Characteristic Curve For Standby Use



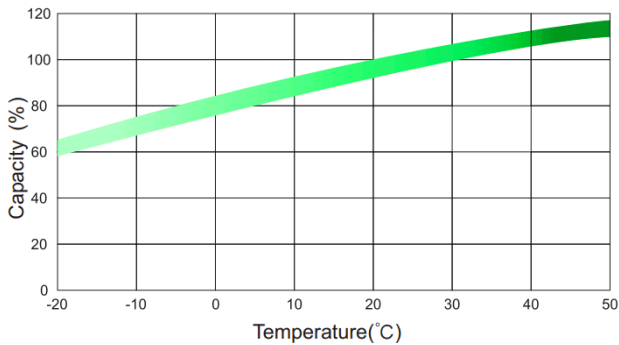
Cycle Life In Relation To Depth Of Discharge



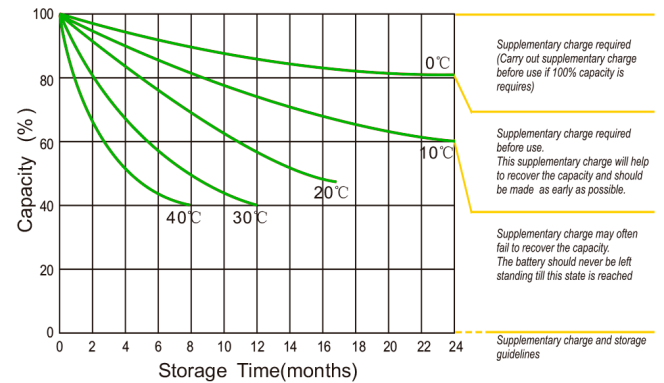
Relationship Between Charging Voltage And Temperature



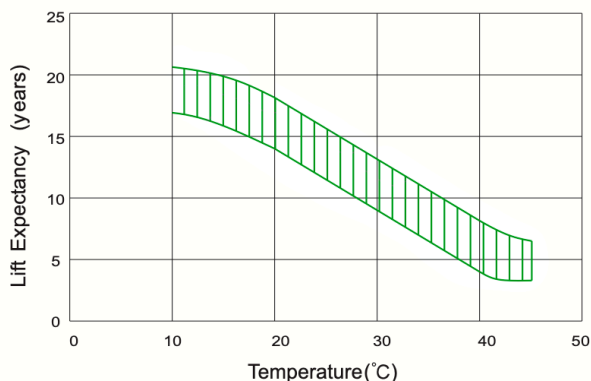
Temperature Effects On Capacity



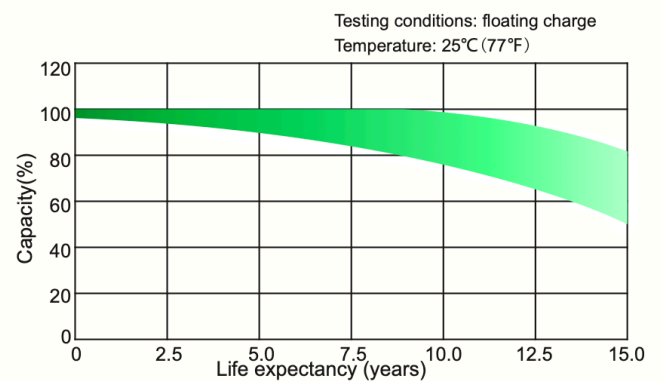
Storage Characteristics



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.