



LIVEN LVHR Series

AGM (Absorbent Glass Material) technology with gas recombination. The LVHR series Valve Regulated Lead Acid (VRLA) battery is designed for heavy load discharge applications with 10~12 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 LVHR series offers 30% more power output than the standard range.

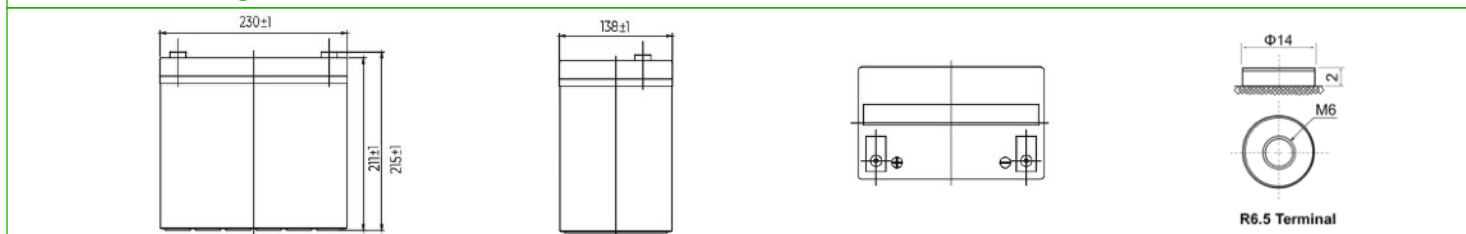
Applications:

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

Dimensions:

Length	230±1mm (9.06in)
Width	138±1mm (5.43in)
Height	211±1mm (8.31in)
Total Height	215±1mm (8.46in)

Technical Drawings:



Specifications:

Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	1200W @15min-rate to 10.02V per battery @25°C
Weight	Approx. 17.30Kg ±2% (38.10lbs)
Internal Resistance	Approx. 6.5mΩ
Terminal	R6.5
Max. Discharge Current	550A (5sec)
Design Life	Up to 10 years in Standby use (25°C) Eurobat (20°C): 10~12 years Long Life
Recommended Max. Charging Current	16.0A
Reference Capacity	C20 58Ah
Standby Use Voltage	13.5V~13.8V @ 25°C Temperature Compensation: -18mV/°C/Cell
Cycle Use Voltage	14.5V~15.0V @ 25°C Temperature Compensation: -30mV/°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.

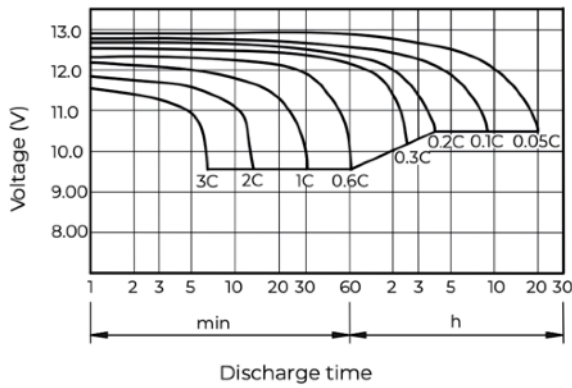
Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V./ Time	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V	159.69	121.30	94.26	67.44	47.36	38.64	20.10	14.40	11.60	10.10
1.67V	152.38	117.89	90.51	65.21	45.89	37.70	19.90	14.30	11.50	10.00
1.70V	148.72	114.49	88.63	64.10	45.05	37.17	19.80	14.20	11.50	9.97
1.75V	141.40	110.07	85.66	62.54	43.89	36.44	19.50	14.10	11.40	9.90
1.80V	134.09	104.29	81.14	60.20	42.32	35.28	19.00	13.70	11.00	9.60

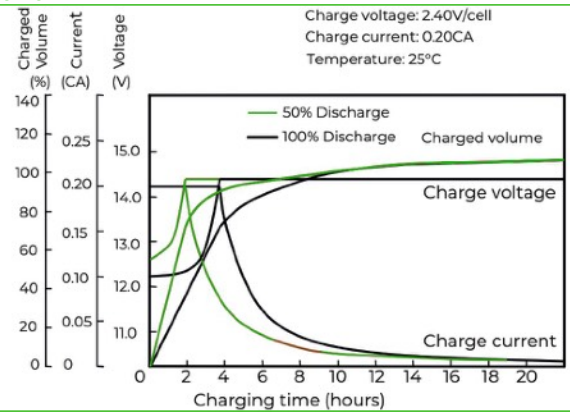
Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

F.V./ Time	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V	1704.8	1273.1	1091.1	803.7	576.2	448.0	235.2	170.4	137.4	120.0
1.67V	1628.6	1200.0	1044.8	776.2	557.6	436.6	232.8	169.2	136.2	118.8
1.70V	1580.0	1198.9	1025.0	762.5	547.7	429.7	231.6	168.0	135.6	118.2
1.75V	1517.7	1155.7	991.9	741.9	534.5	421.5	228.0	166.8	134.4	117.6
1.80V	1427.6	1093.9	939.0	714.4	514.6	408.2	222.6	162.0	130.8	114.0

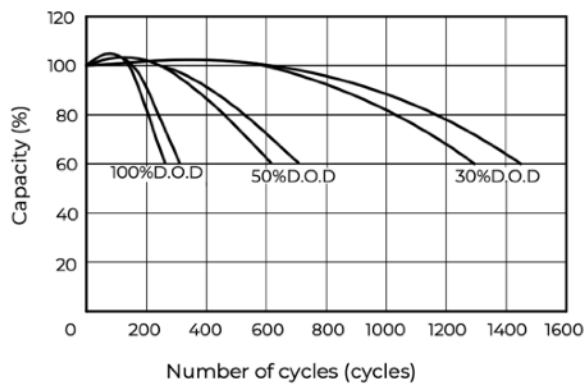
Discharge Characteristics Curve



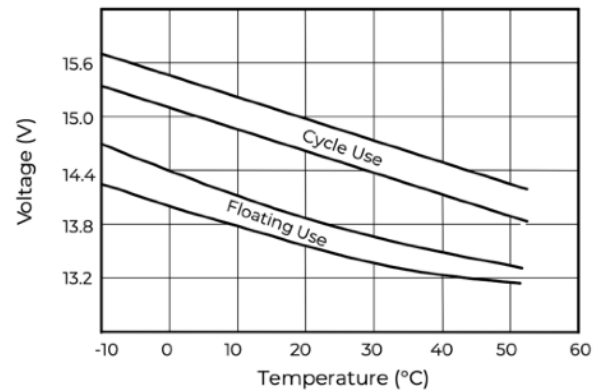
Charging Characteristics



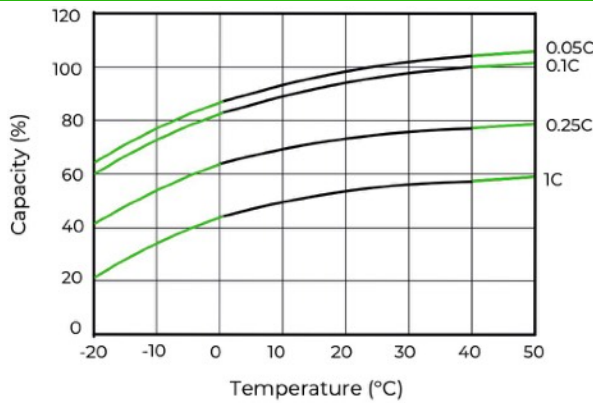
Cycle Life In Relation To Depth Of Discharge



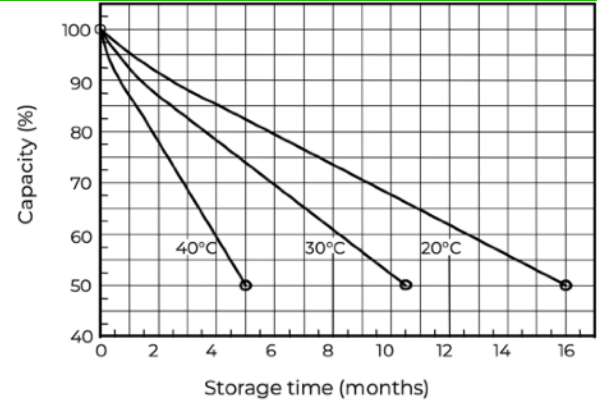
Relationship Between Charging Voltage And Temperature



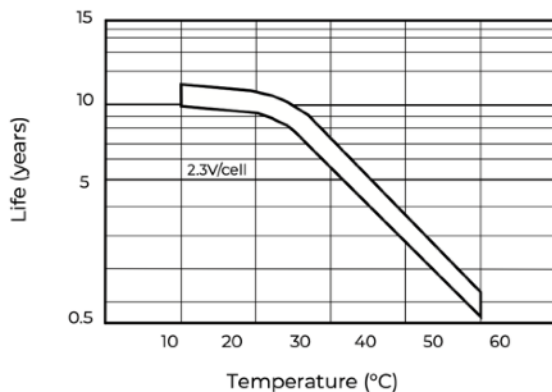
Temperature Effects On Capacity



Storage Characteristics



Effect Of Temperature On Long Term Life



Relationship For OCV And Capacity

