



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.

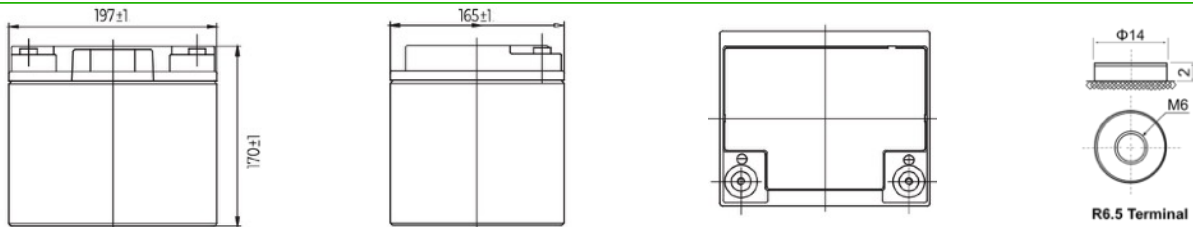
Applications:

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

Dimensions:

Length	197±1mm (7.76in)
Width	165±1mm (6.50in)
Height	170±1mm (6.69in)
Total Height	170±1mm (6.69in)

Technical Drawings:



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	111.38	91.57	69.08	48.88	36.10	29.40	16.40	11.80	9.50	8.26
1.67V	107.10	88.79	66.26	47.37	34.90	28.70	16.30	11.70	9.42	8.19
1.70V	103.99	86.00	64.94	46.46	34.30	28.30	16.20	11.60	9.38	8.16
1.75V	99.60	83.11	62.72	45.35	33.40	27.70	16.00	11.60	9.32	8.10
1.80V	93.93	78.72	59.39	43.63	32.20	26.80	15.60	11.20	9.04	7.86

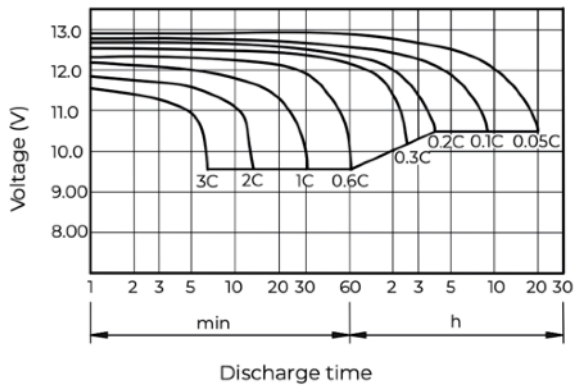
Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

F.V./ Time	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V	1223.5	999.9	792.0	566.6	417.6	340.8	192.6	139.2	112.2	98.4
1.67V	1173.5	960.0	762.0	548.5	404.4	332.4	190.8	138.0	111.6	97.2
1.70V	1142.3	939.3	744.0	538.1	397.2	327.0	189.6	137.4	111.0	97.2
1.75V	1092.4	909.0	720.0	524.8	387.6	321.0	186.6	136.8	110.4	96.0
1.80V	1030.0	860.5	678.0	506.0	373.2	310.8	181.8	132.6	106.8	93.6

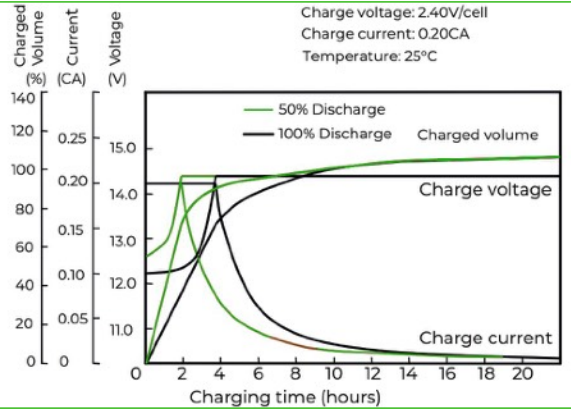
Specifications:

Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	960W @15min-rate to 10.02V per battery @25°C
Weight	Approx. 14.30Kg ±2% (31.50lbs)
Internal Resistance	Approx. 7mΩ
Terminal	R6.5
Max. Discharge Current	400A (5sec)
Design Life	Up to 10 years in Standby use (25°C) Eurobat (20°C): 10~12 years Long Life
Recommended Max. Charging Current	12.80A
Reference Capacity	C20 48Ah
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.

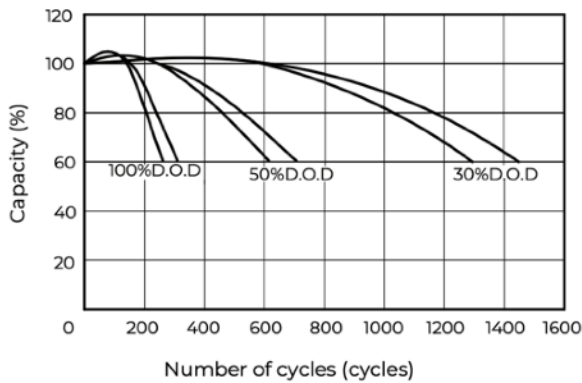
Discharge Characteristics Curve



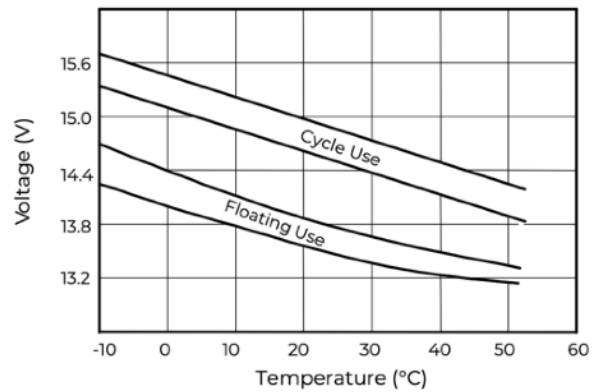
Charging Characteristics



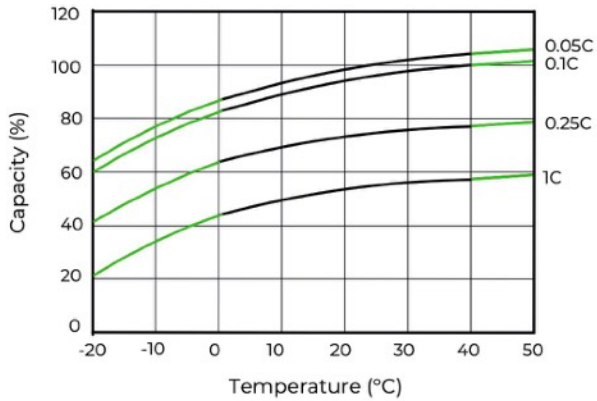
Cycle Life In Relation To Depth Of Discharge



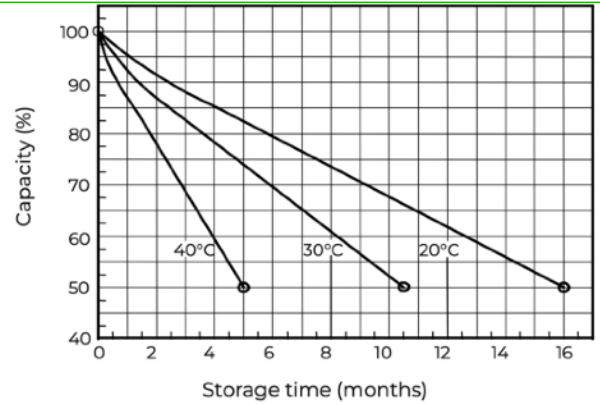
Relationship Between Charging Voltage And Temperature



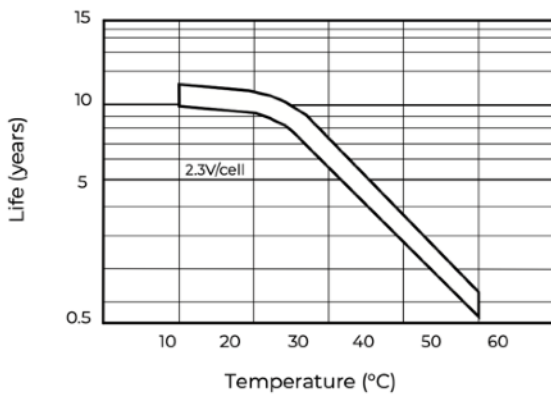
Temperature Effects On Capacity



Storage Characteristics



Effect Of Temperature On Long Term Life



Relationship For OCV And Capacity

