

HR Series

HR(High-Rate) Series of valve regulated lead acid (VRLA) batteries have been developed with high efficiency active materials to stimulate inside the battery with higher power output when the battery is discharged to a extent level of discharging. Along with high-density structure design for relatively smaller Inner resistance which will significantly improve the performance for high rate discharging when high power output service is needed.

Application

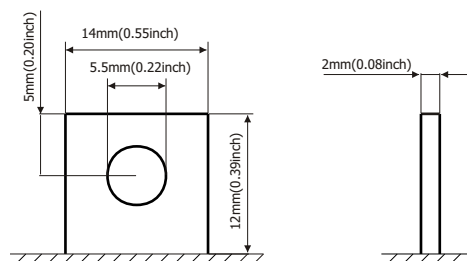
- Alarm System
- Cable Television
- Communication Equipment
- Control Equipment
- Security System
- Medical Equipment
- Toys
- UPS
- Emergency Power System

General Features

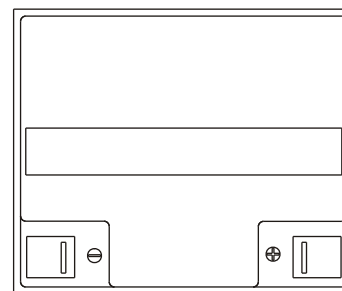
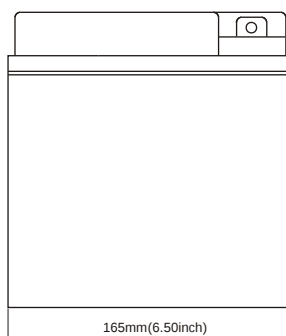
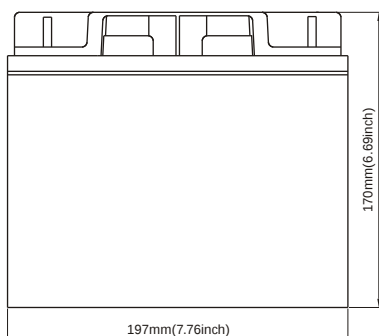
- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.
- Flexibility design for multiple install positions.

Construction

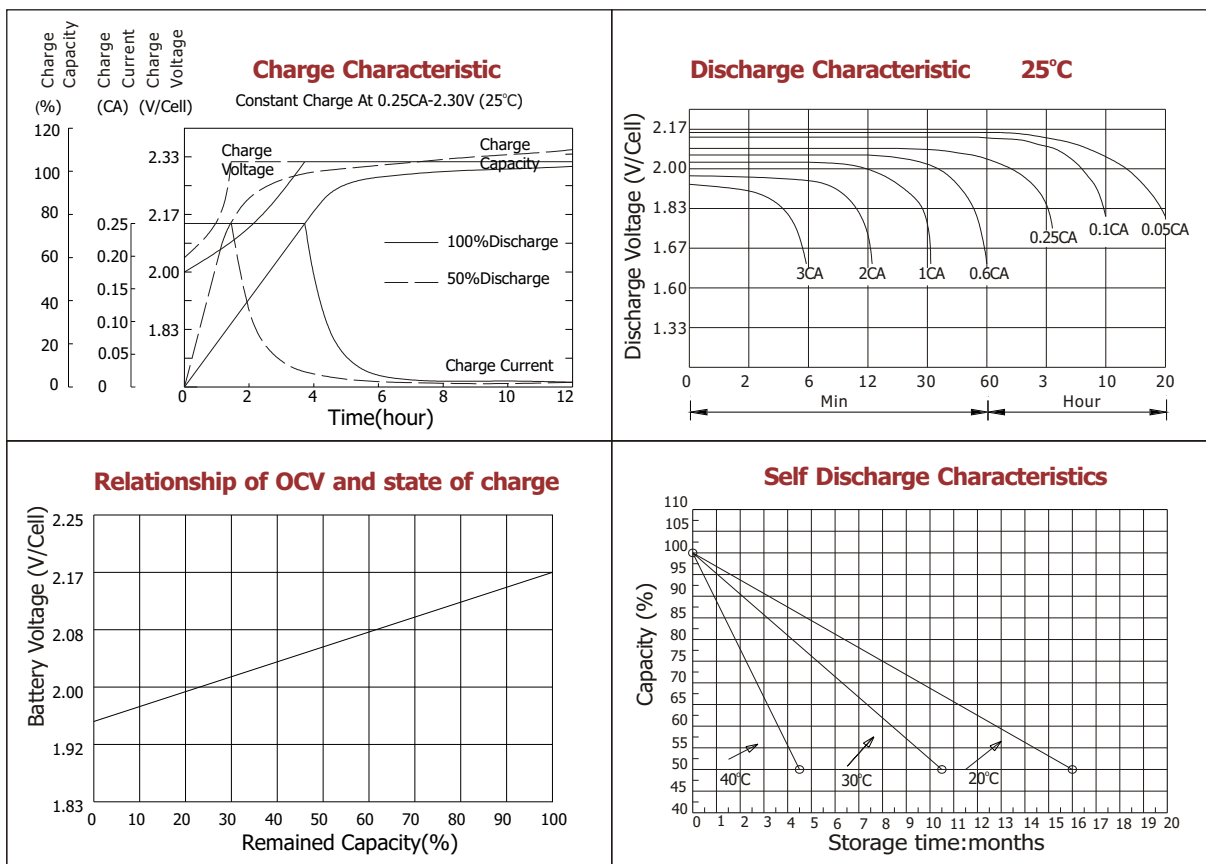
- ComponentRaw material
- PositiveLead dioxide
- NegativeLead
- ContainerABS
- CoverABS
- SealantEpoxy Resin
- Safety valveEPDR
- TerminalCopper
- SeparatorFibre glass
- ElectrolyteSulfuric acid



Terminal Dimensions



Battery Model	HR12-170W (170W to 1.67V, 15min)			
Designed Floating Life	8 Years			
Capacity(25°C)	20HR(2.35A,1.75V)	10HR(4.5A,1.75V)	5HR(7.92A,1.75V)	1HR(29.7A,1.75V)
	47AH	45AH	39.6AH	29.7AH
Dimensions	Length	Width	Height	Total Height
	197mm(7.76inch)	165mm(6.50inch)	170mm(6.69inch)	170mm(6.69inch)
Approx. Weight	13.7Kg (30.21 lbs)			
Internal Resistance	Full charged at 25°C: 0.009 Ohm			
Self Discharge	3% of capacity declined per month at (25°C)			
Capacity Affected by Temp.(20HR)	40°C	25°C	0°C	-15°C
	102%	100%	85%	65%
Charge Voltage(25°C)	Cycle use		Float use	
	14.4-15V(-30mV/ °C), max. Current: 11A		13.6-13.8V(-20mV/ °C)	



Constant current discharge ratings-amperes at 25°C

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	201	125	94.3	57.5	31.3	13.7	8.39	4.57	2.47
1.67V	189	119	90.7	55.0	30.9	13.2	8.21	4.53	2.38
1.70V	173	114	88.6	50.0	29.9	12.3	8.04	4.51	2.35
1.75V	169	111	85.7	47.5	28.5	11.9	7.86	4.49	2.28
1.80V	152	105.7	77.9	44.0	26.7	11.4	7.39	4.40	2.22
1.85V	134	100.7	70.0	40.5	24.9	11.0	6.92	4.34	2.16

Constant power discharge ratings-watts at 25°C

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	352	226	172	103.6	56.4	24.3	14.2	9.39	4.93
1.67V	340	220	170	101.4	56.1	23.6	14.1	9.33	4.75
1.70V	320	218	169	95.0	55.0	22.5	13.9	9.27	4.69
1.75V	322	217	167	92.1	54.1	22.0	13.8	9.15	4.58
1.80V	295	214	155	87.9	51.0	21.4	13.4	9.03	4.46
1.85V	267	203	141	82.3	47.9	20.7	13.0	8.92	4.28

