

**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**

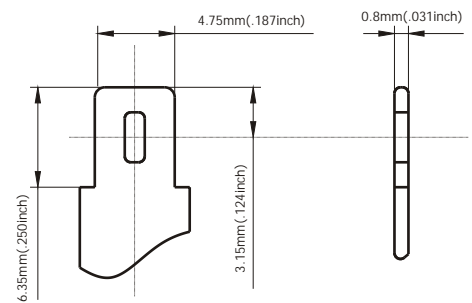
- Alarm System
- Cable Television
- Communication Equipment
- Control Equipment
- Security System
- Medical Equipment
- Toys
- UPS
- Emergency Power System

**General Features**

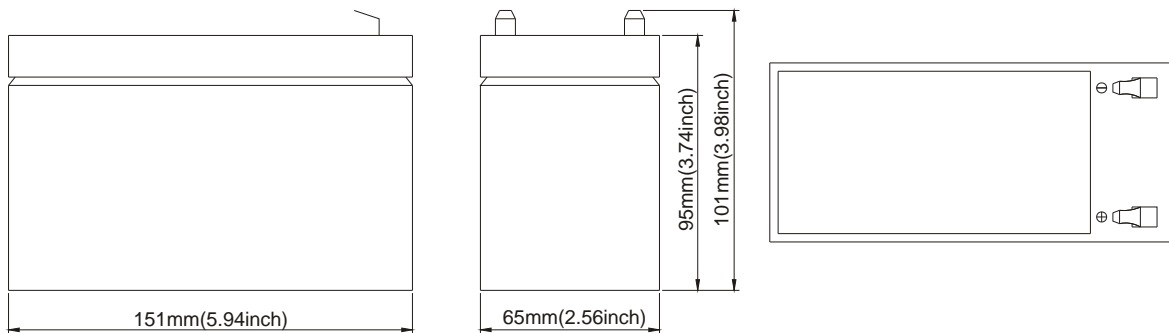
- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.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

**Construction**

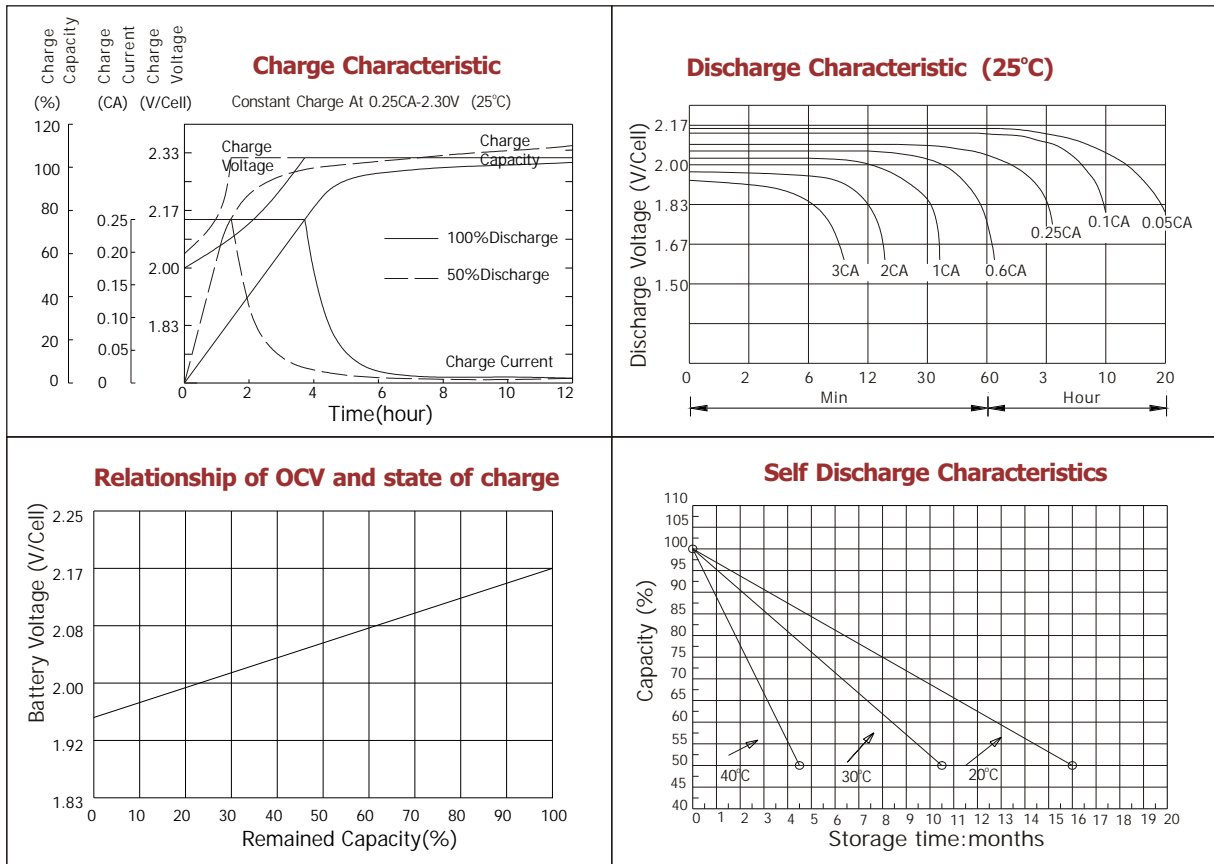
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy Resin
- Safety valve ....EPDR
- Terminal .....Copper
- Separator .....Fibre glass
- Electrolyte .....Sulfuric acid



**Terminal Dimensions**



Battery Model	HR12-36W (36W to 1.67V, 15min)			
Designed Floating Life	5 Years			
Capacity(25°C)	20HR(0.5A,1.75V)	10HR(0.95A,1.75V)	5HR(1.7A,1.75V)	1HR(6.3A,1.75V)
	10AH	9.5AH	8.5AH	6.3AH
Dimensions	Length	Width	Height	Total Height
	151mm(5.94inch)	65mm(2.56inch)	95mm(3.74inch)	101mm(3.78inch)
Approx. Weight	2.7 Kg (5.95 lbs)			
Internal Resistance	Full charged at 25°C: 0.017 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: 2.7A		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	49.6	30.9	23.3	14.2	7.11	3.12	1.91	1.04	0.56
1.67V	46.6	29.3	22.4	13.6	7.01	3.00	1.87	1.03	0.54
1.70V	42.7	28.2	21.9	12.4	6.80	2.80	1.83	1.02	0.53
1.75V	41.8	27.4	21.2	11.7	6.48	2.71	1.79	1.02	0.52
1.80V	37.4	26.1	19.2	10.9	6.07	2.60	1.68	1.00	0.51
1.85V	33.0	24.9	17.3	10.0	5.65	2.51	1.57	0.99	0.49

**Constant power discharge ratings-watts at 25°C**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	87.1	55.8	42.5	25.6	12.8	5.53	3.22	2.13	1.12
1.67V	84.0	54.4	42.0	25.1	12.7	5.36	3.21	2.12	1.08
1.70V	79.1	53.8	41.6	23.5	12.5	5.12	3.17	2.11	1.07
1.75V	79.6	53.6	41.3	22.8	12.3	5.00	3.14	2.08	1.04
1.80V	72.8	52.9	38.3	21.7	11.6	4.85	3.04	2.05	1.01
1.85V	66.1	50.1	34.7	20.3	10.9	4.71	2.94	2.03	0.97

