



**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

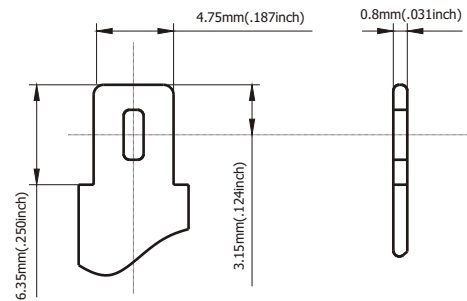


**General Features**

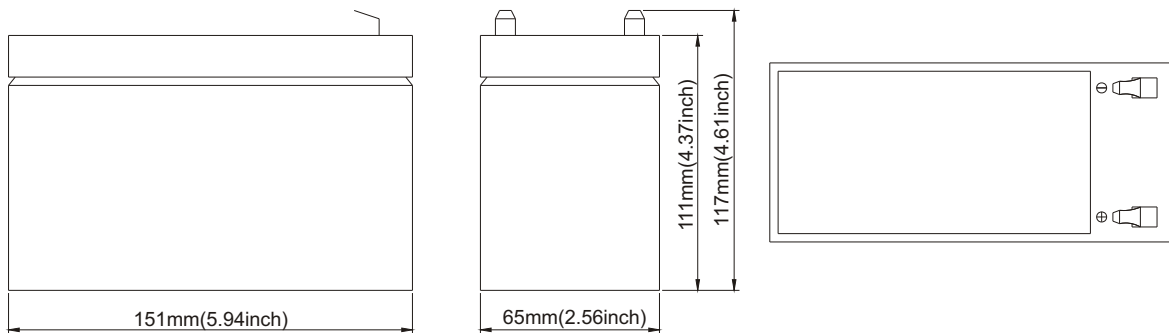
- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.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

**Construction**

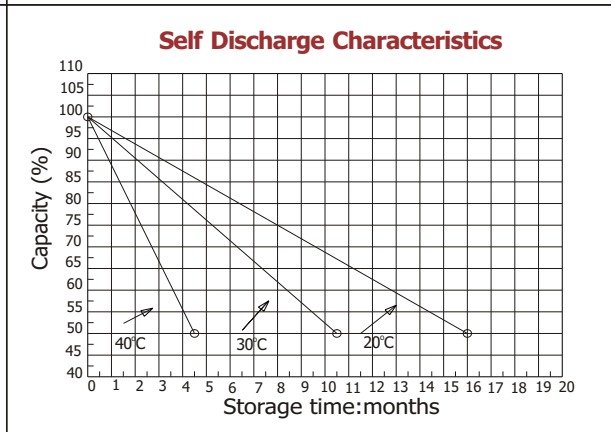
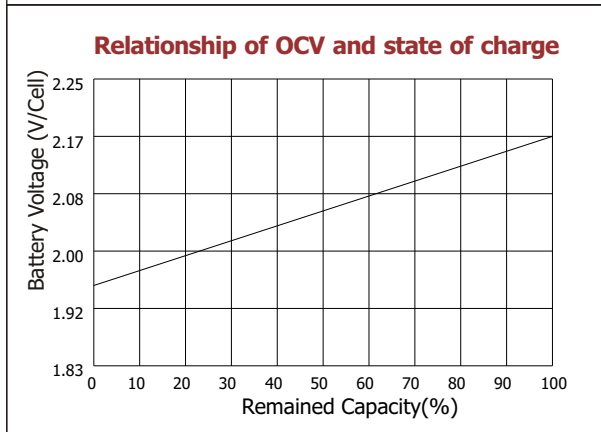
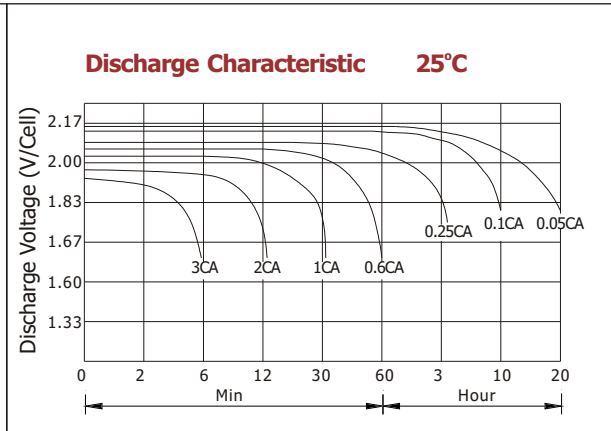
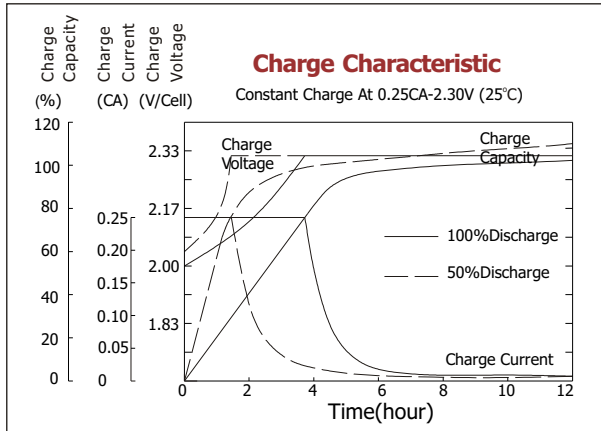
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy Resin
- Safety valve .....EPDR
- Terminal .....Copper
- Separator .....Fibre glass
- Electrolyte Sulfuric acid



**Terminal Dimensions**



Battery Model	HR12-43W (43W to 1.67V, 15min)			
Designed Floating Life	5 Years			
Capacity(25°C)	20HR(0.55A,1.75V)	10HR(1.05A,1.75V)	5HR(1.86A,1.75V)	1HR(7.15A,1.75V)
	11AH	10.5AH	9.3AH	7.15AH
Dimensions	Length	Width	Height	Total Height
	151mm(5.94inch)	65mm(2.56inch)	111mm(4.37inch)	117mm(4.61inch)
Approx. Weight	3.15 Kg (7.28 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: 3A		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	53.2	33.1	25.0	15.2	7.82	3.43	2.10	1.14	0.62
1.67V	49.9	31.4	24.0	14.6	7.71	3.30	2.05	1.13	0.60
1.70V	45.7	30.3	23.4	13.2	7.48	3.08	2.01	1.13	0.59
1.75V	44.8	29.3	22.7	12.6	7.13	2.98	1.97	1.12	0.57
1.80V	40.1	28.0	20.6	11.6	6.67	2.86	1.85	1.10	0.56
1.85V	35.4	26.7	18.5	10.7	6.22	2.76	1.73	1.09	0.54

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

F. V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	93.3	59.7	45.6	27.4	14.1	6.09	3.54	2.35	1.23
1.67V	90.0	58.2	45.0	26.8	14.0	5.90	3.53	2.33	1.19
1.70V	84.8	57.7	44.6	25.1	13.8	5.63	3.48	2.32	1.17
1.75V	85.3	57.5	44.2	24.4	13.5	5.50	3.45	2.29	1.14
1.80V	78.1	56.6	41.0	23.3	12.7	5.34	3.35	2.26	1.11
1.85V	70.8	53.7	37.2	21.8	12.0	5.18	3.24	2.18	1.07

