

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

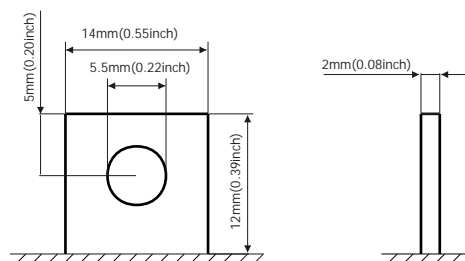
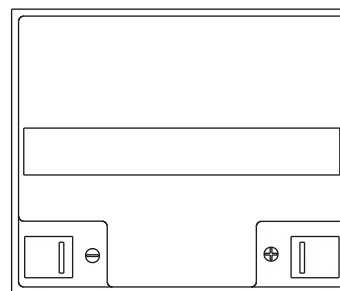
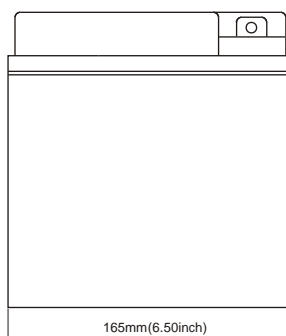
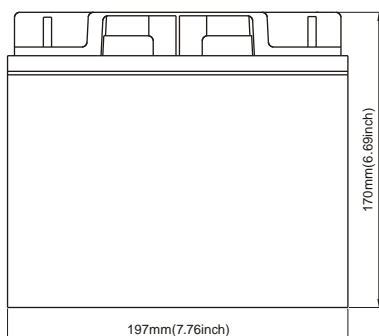
- Alarm System
- Cable Television
- Communication Equipment
- Control Equipment
- Security System
- Medical Equipment
- Toys
- UPS
- Emergency Power System

General Features

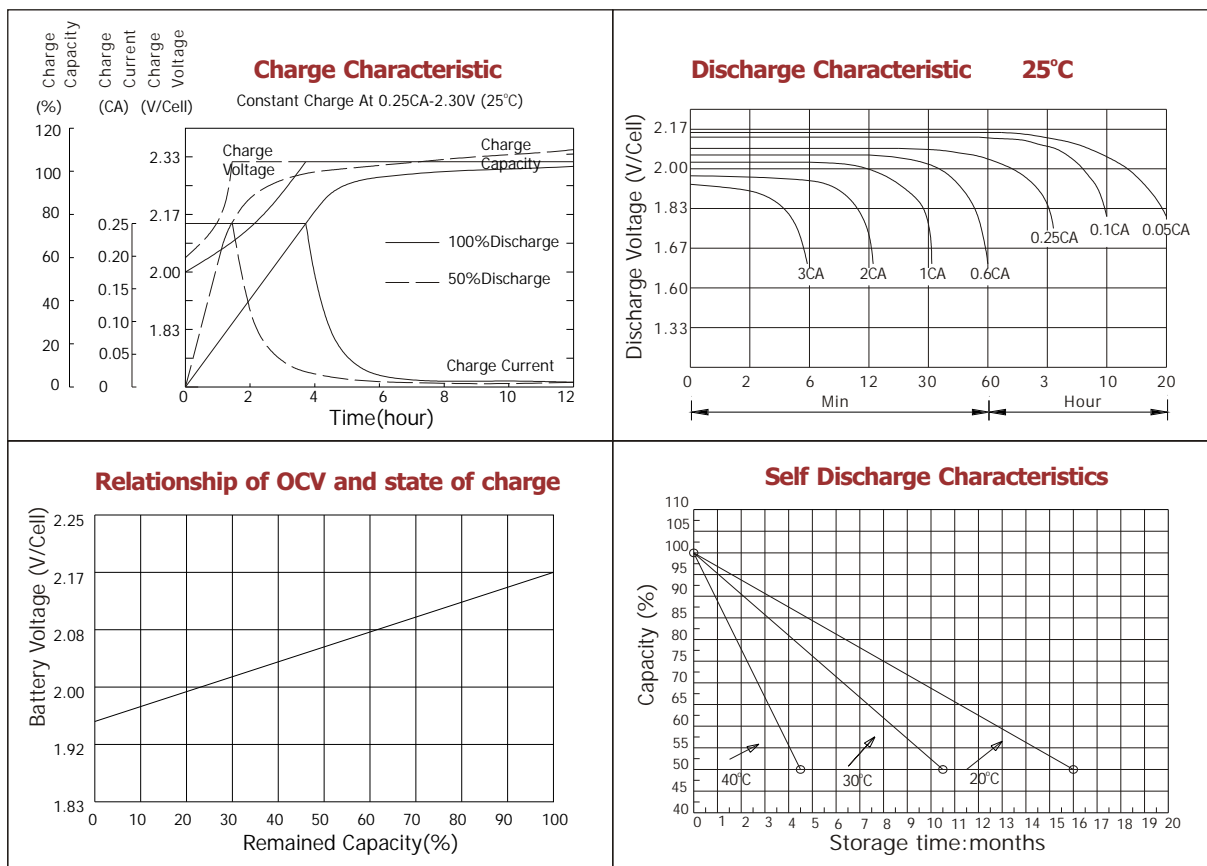
- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.
- 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	HR12-180W (180W to 1.67V, 15min)			
Designed Floating Life	8 Years			
Capacity(25°C)	20HR(2.55A,1.75V)	10HR(4.9A,1.75V)	5HR(8.6A,1.75V)	1HR(32.5A,1.75V)
	51AH	49AH	43AH	32.5AH
Dimensions	Length	Width	Height	Total Height
	197mm(7.76inch)	165mm(6.50inch)	170mm(6.69inch)	170mm(6.69inch)
Approx. Weight	15Kg (33.08 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: 12A		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	213	132	99.8	60.9	34.1	15.0	9.15	4.98	2.69
1.67V	200	126	96.1	58.2	33.7	14.4	8.96	4.94	2.60
1.70V	183	121	93.8	52.9	32.6	13.4	8.77	4.92	2.56
1.75V	179	117	90.8	50.3	31.1	13.0	8.58	4.90	2.49
1.80V	160	111.9	82.4	46.6	29.1	12.5	8.06	4.80	2.42
1.85V	142	106.6	74.1	42.9	27.1	12.0	7.55	4.73	2.36

Constant power discharge ratings-watts at 25°C

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	373	239	182	109.7	61.6	26.6	15.5	10.24	5.38
1.67V	360	233	180	107.4	61.2	25.7	15.4	10.18	5.18
1.70V	339	231	178	100.6	60.0	24.6	15.2	10.11	5.12
1.75V	341	230	177	97.6	59.0	24.0	15.1	9.98	4.99
1.80V	312	227	164	93.0	55.6	23.3	14.6	9.86	4.86
1.85V	283	215	149	87.1	52.3	22.6	14.1	9.73	4.67

