



# Valve Regulated Lead-Acid Rechargeable Battery



## HR9-12

(36W/Cell 15Min Rate)

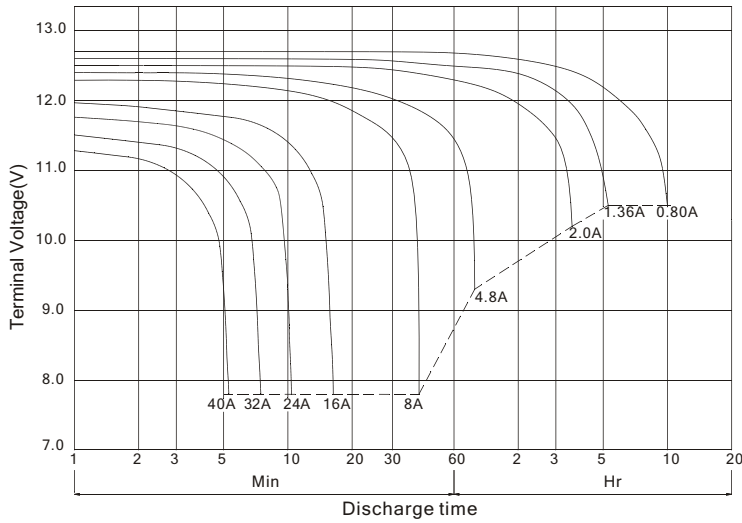
For High Rate Discharge

The battery is constructed by plates, separators, safety valves and container. Since the electrolyte is held by a glass-mat separator and plates, the battery can be used in any direction and position without leakage.

## PERFORMANCE SPECIFICATIONS

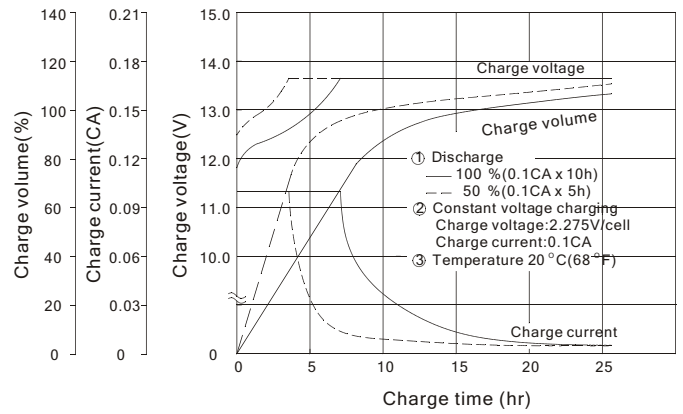
Nominal Voltage(V).....	12 volts(6cells in series)
Nominal Capacity(Ah)	
10 Hour rate F.V.(1.75V/cell) (800mA to10.5volts) .....	8.0Ah
15 Min rate F.V.(1.30V/cell) (216W to 7.80volts) .....	4.5Ah
Approximate Weight .....	2750g(6.06lbs.)
Terminal	
Standard.....	Type T2
Optional.....	Type T1, B0
Internal Resistance (Fully Charged Battery).....	<15mΩ
Maximum Discharge Current For 5 sec.(A).....	120A
Maximum Charge Current(A).....	2.4A
Ambient Temperature	
Charge.....	0°C(32°F)~40°C(104°F)
Discharge.....	-20°C(-4°F)~50°C(122°F)
Storage.....	-20°C(-4°F)~40°C(104°F)
Vibration test:	
Frequency: 16.7Hz	
Amplitude: 4mm	
Vibrate the battery horizontally or vertically for 60 minutes. The battery have no abnormality.	
Case.....	ABS
Dimension(mm/inch)	
Length           ±1.5mm.....	151/5.94
Width           ±1.5mm.....	65/2.56
Container Height ±1.5mm.....	94/3.70
Total Height    ±2mm.....	100/3.94
Application.....	UPS, Laboratory Equipment, Toy-Cars, Power Packs, Fishing Lights Booster.

## HR-9-12 Battery discharge characteristics (25 °C/77 °F)



## Battery Charging Characteristics

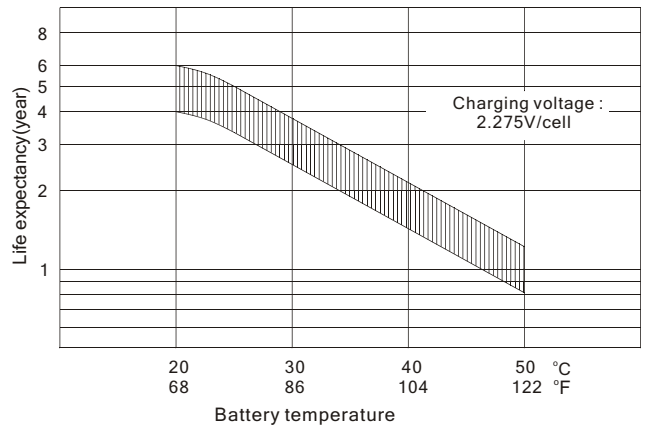
(Typical example of the charge characteristic for the standby use)



## Charging Procedure

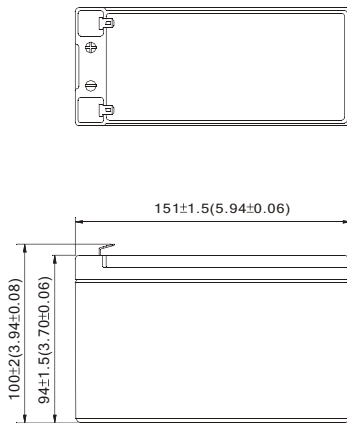
Application	Charging method	Charging Voltage at 20 °C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Max. charging current (CA)	Charging time 0.1CA, 20 °C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power Source	Constant voltage & Constant current charging (with current restriction)	2.25~2.30	-3	0.3	24	20	0~40 (32~104°F)
For cycle service		2.40~2.50	-4	0.3	16	10	

## Effect of Temperature on Long Term Float Life



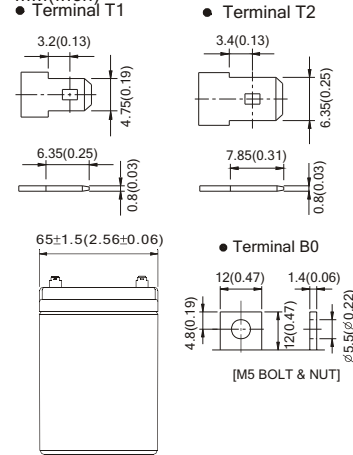
## OUTER DIMENSIONS

mm(inch)



## TERMINAL TYPE

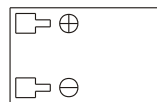
mm(inch)



## Constant power discharge characteristics at 25°C/77°F

Final Voltage	Discharge time							
	5Min	10Min	15Min	20Min	30Min	40Min	50Min	60Min
10.80V	369.0	252.0	182.5	155.7	118.4	90.0	75.2	66.2
10.20V	441.0	281.3	198.5	164.9	123.3	93.4	77.6	67.7
9.60V	472.5	295.9	207.5	171.0	126.0	95.6	79.2	68.9
9.00V	486.0	301.5	212.0	173.7	127.6	96.8	80.1	69.5
8.40V	495.0	305.6	214.4	175.3	128.5	97.4	80.8	70.0
7.80V	499.5	308.3	216.0	176.4	129.2	97.9	81.2	70.2

## TERMINAL POSITION



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