



Valve Regulated Lead-Acid Rechargeable Battery



HR33-12

(132W/Cell 15Min Rate)

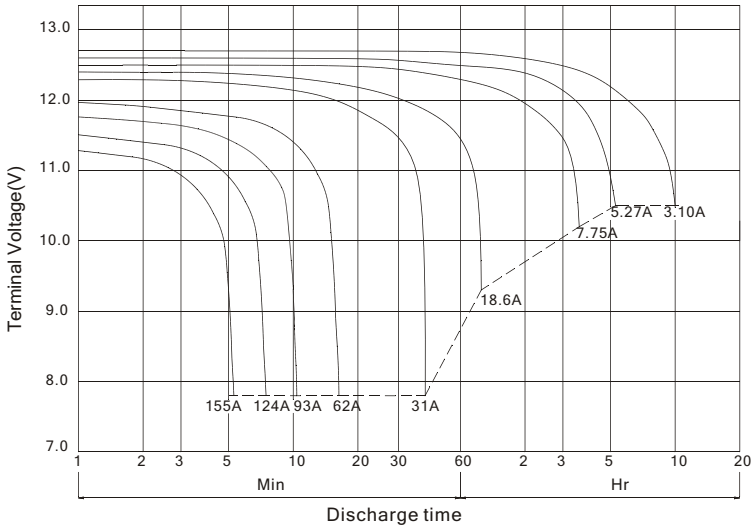
For High Rate Discharge

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

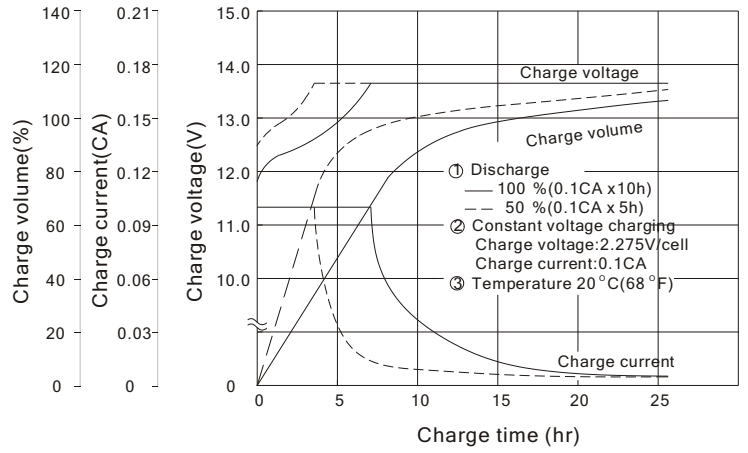
Nominal Voltage(V).....	12 volts(6cells in series)
Nominal Capacity(AH)	
10 Hour rate F.V.(1.75V/cell) (3.1A to 10.50volts)	31.0A.H.
15 Min rate F.V.(1.30V/cell) (792W to 7.80volts)	16.5A.H.
Approximate Weight	10.0kg(22.05lbs.)
Terminal	
Standard.....	Type B1
Optional.....	Type T2.I1
Internal Resistance (Fully Charged Battery).....	<7m Ω
Maximum Discharge Current For 5 sec.(A).....	420A
Maximum Charge Current(A).....	9.30A
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.....	175/6.89
Width ±1.5mm.....	166/6.54
Container Height ±1.5mm.....	125/4.92
Total Height ±1.5mm.....	125/4.92
Application.....	UPS, Wheelchairs, Lawn Mowers, Electronic Medical Equipment, Golf-Carts.

HR33-12 Battery discharge characteristics (25 °C/77 °F)



Battery Charging Characteristics

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

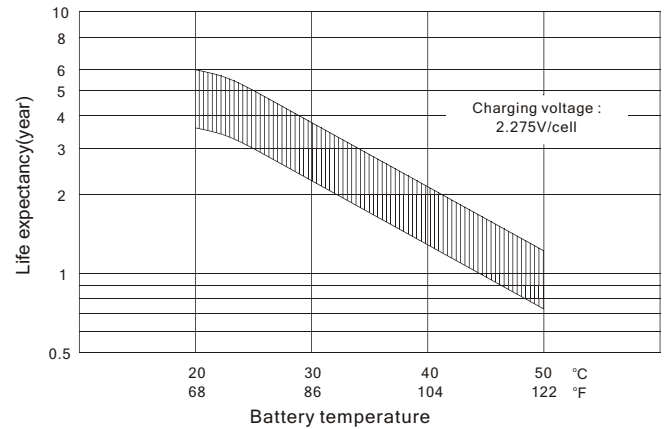


Charging Procedure

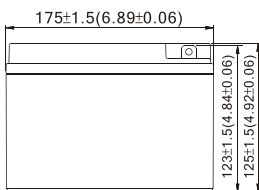
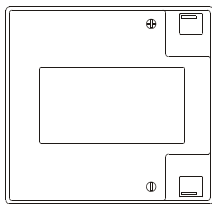
Application	Charging method	Charging Voltage at 20 °C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Max. charging current (CA)	Charging time 0.1CA, 20 °C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power Source	Constant voltage & Constant current charging (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	

*Temperature compensation of charging voltage is not needed, when using the batteries within 5 °C to 35 °C range.

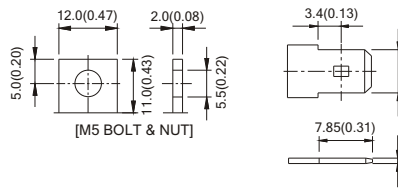
Effect of Temperature on Long Term Float Life



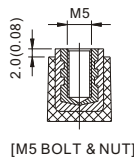
OUTER DIMENSIONS



TERMINAL TYPE



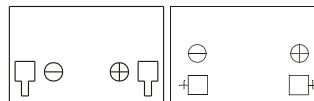
● Terminal I1



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

Final Voltage	Discharge time							
	5Min	10Min	15Min	20Min	30Min	40Min	50Min	60Min
10.80V	1353	924	669	571	434	330	276	243
10.20V	1617	1031	728	605	452	342	285	248
9.60V	1733	1085	761	627	462	351	290	252
9.00V	1782	1106	777	637	468	355	294	255
8.40V	1815	1120	786	643	471	357	296	257
7.80V	1832	1130	792	647	474	359	298	257

TERMINAL POSITION



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