



Valve Regulated Lead-Acid Rechargeable Battery



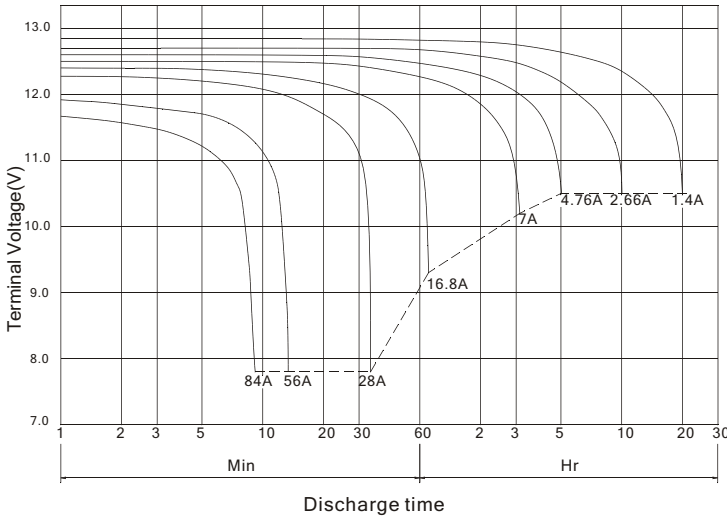
BP28-12

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 (but upside-down should be avoided) without leakage.

PERFORMANCE SPECIFICATIONS

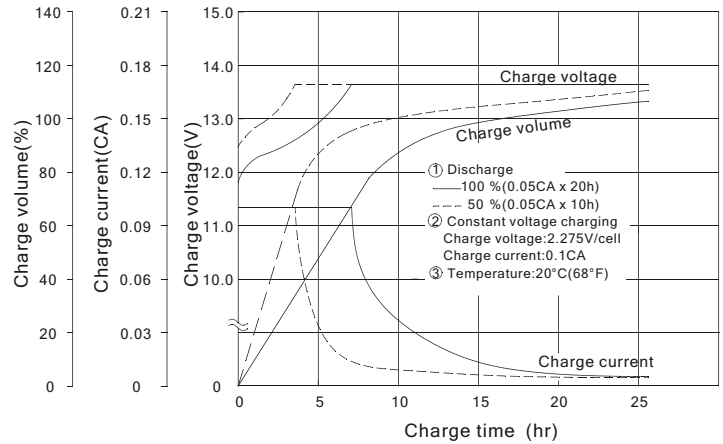
Nominal Voltage(V).....	12 volts(6cells in series)
Nominal Capacity(Ah)	
20 hour rate F.V.(1.75V/cell) (1400mA to 10.50volts)	28.0Ah
10 hour rate F.V.(1.75V/cell) (2660mA to 10.50volts).....	26.6Ah
5 hour rate F.V.(1.75V/cell) (4760mA to 10.50volts)	23.8Ah
1 hour rate F.V.(1.55V/cell) (16800mA to 9.30volts).....	16.8Ah
Approximate Weight.....	9600g(21.17lbs)
Terminal	
Standard.....	Type B1
Optional.....	Type T2,I1
Terminal Hardware Initial Torque.....	B1(2.5 Nm $\pm$ 5%), I1(4.0 Nm $\pm$ 5%)
Internal Resistance (Fully Charged Battery).....	$\leq 10\text{m}\Omega$
Maximum Discharge Current For 5 sec.(A).....	420A
Maximum Charge Current(A).....	8.4A
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: UL 94-HB
Dimension(mm/inch)	
Length $\pm 1.5\text{mm}$	175/6.89
Width $\pm 1.5\text{mm}$	166/6.54
Container Height $\pm 1.5\text{mm}$	125/4.92
Total Height $\pm 1.5\text{mm}$	125/4.92
Application.....	Wheelchairs, Lawn Mowers, Electronic Medical Equipment, UPS, Golf-Carts.

BP28-12 Battery discharge characteristics (25°C/77°F)



Battery Charging Characteristics

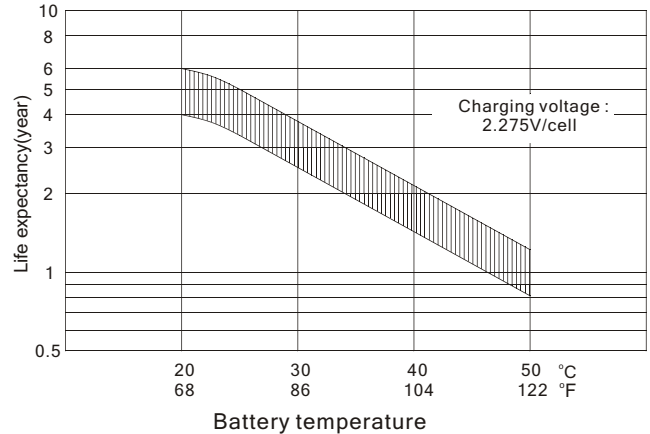
(Typical example of the charge characteristics for the standby use)



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	

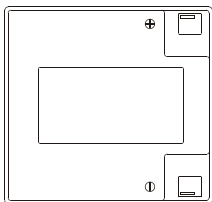
Effect of temperature on long term float life



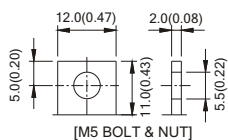
OUTER DIMENSIONS

TERMINAL TYPE

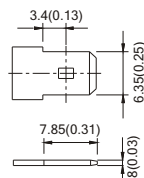
mm(inch)



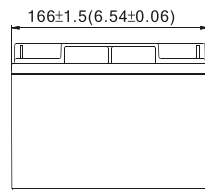
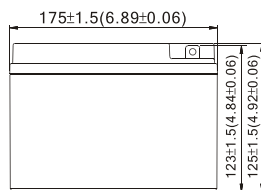
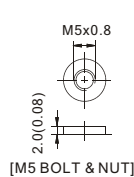
Terminal B1



Terminal T2



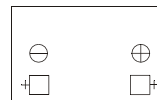
Terminal I1



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

Final Voltage	Discharge time								
	5Min	10Min	15Min	30Min	1Hr	3Hr	5Hr	10Hr	20Hr
10.80V	1012.3	745.3	597.2	355.3	203.79	81.62	56.27	31.45	16.55
10.50V	1171.7	807.4	624.7	368.8	209.90	83.25	57.12	31.92	16.80
10.20V	1245.0	836.4	644.0	377.3	213.67	84.00	57.43	32.08	16.88
9.90V	1300.9	856.5	658.8	382.6	216.24	84.58	57.63	32.18	16.93
9.60V	1344.0	873.6	672.0	386.4	218.40	85.09	57.81	32.18	16.93

TERMINAL POSITION



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