



VRLA Rechargeable Battery

HR4.2-12FR

FEATURES

- Maintenance Free (topping up not required)
- Non-spillable (no free acid)
- Low Self Discharge, less than 3% per month
- Both Vertical & Horizontal installations
- Excellent High Rate performance, 30% higher power for 5 to 15min discharge
- Absorbent Glass Mat technology for efficient gas recombination
- Its design life is up to 6 years in floating application
- Reliable Safety Valve in each cell

APPLICATIONS

- UPS
- Laboratory Equipment
- Power Boosters
- R/C cars & planes
- Emergency Lighting

SPECIFICATIONS

Nominal Voltage	12V	
Nominal Capacity	20 Hour Rate (0.20A, 10.5V)	4.0 Ah
	10 Hour Rate (0.38A, 10.5V)	3.8 Ah
	15 Min Rate (101W, 9.6V)	2.1 Ah
	10 Min Rate (132W, 9.6V)	1.8 Ah
Approx. Weight	1395g(3.17lbs.)	
Terminals	T2 (Faston Tab 250) T1 is optional	
Max. Discharge Current	60 A (5 sec.)	
Max. Charge Current	1.2 A	
Operating Temperature Range	Charge	0°C~40°C(32°F~104°F)
	Discharge	-20°C~50°C(-4°F~122°F)
	Storage	-20°C~40°C(-4°F~104°F)
Self Discharge	< 3% per month (25°C)	
Internal Resistance	≤ 42mΩ (Fully Charged) (25°C)	



CONTAINER MATERIAL

- Flame Retardant ABS(UL94 V-0)
- Model Name: HR4.2-12FR

Certificate as below:



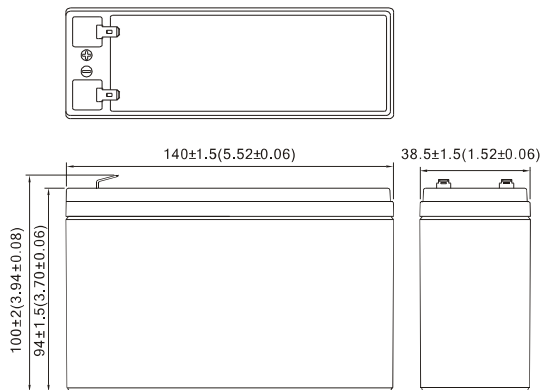
Compliance of the standards as below:

- IEC 61056-1
- JIS C 8702-1
- GB/T 19639.1
- VdS G121015

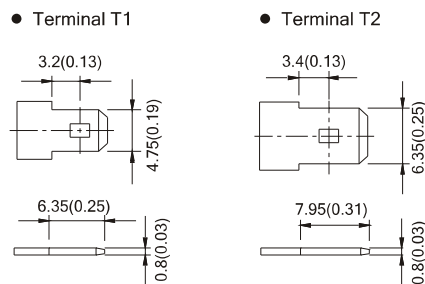
OUTER DIMENSIONS

mm(inch)

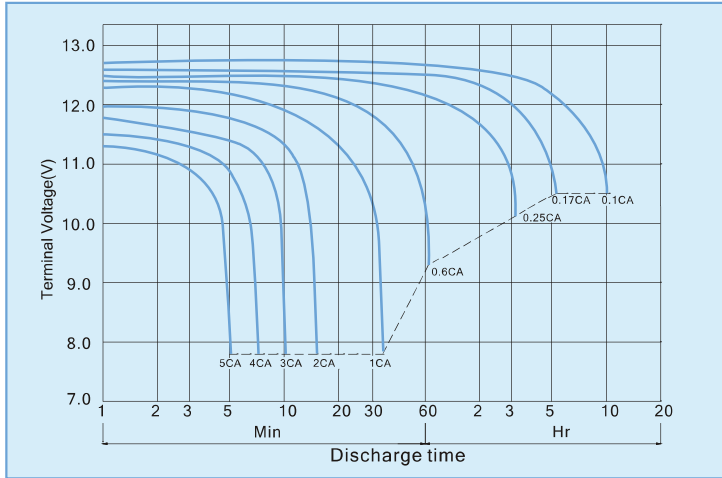
Length (L)	Width (W)	Container Height (H)	Total Height (TH)
140±1.5(5.52±0.06)	38.5±1.5(1.52±0.06)	94±1.5(3.70±0.06)	100±2.0(3.94±0.08)



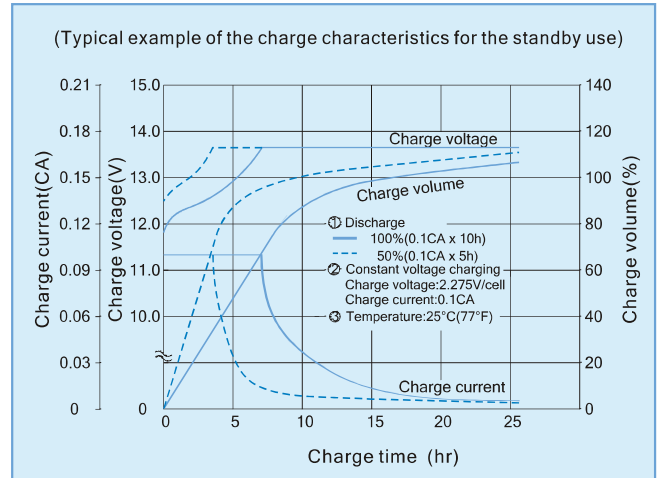
TERMINAL TYPE



HR4.2-12FR discharge characteristics (25°C/77°F)



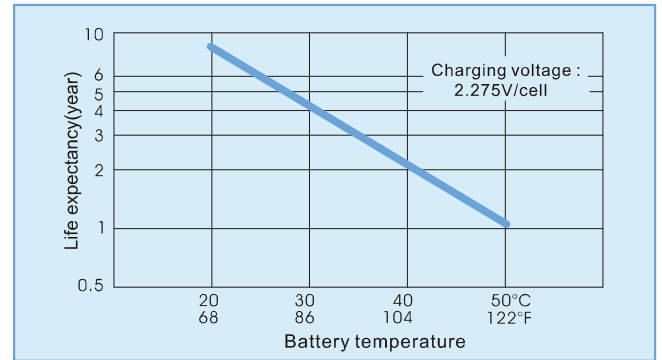
Battery Charging Characteristics



Charging Procedure

Application	Charging method	Charging Voltage at 25°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Max. charging current (CA)	Charging time 0.1CA, 25°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



Constant power discharge characteristics at 25 °C/77 °F Unit: W

F.V. (V/cell) \ Discharge Time	3Min	5 Min	10 Min	15 Min	20 Min	30 Min	40 Min	50 Min	60 Min	120 Min
1.80V	241	156.2	112.4	88.9	75.9	57.6	44.3	36.7	32.3	17.8
1.70V	272	186.7	125.5	96.6	80.3	60.0	46.0	37.9	33.1	18.2
1.60V	285	200.0	132.0	101.0	83.3	61.4	47.1	38.7	33.6	18.4
1.50V	291	205.7	134.5	103.2	84.7	62.2	47.7	39.1	33.9	18.5
1.40V	293	209.5	136.3	104.3	85.4	62.7	47.9	39.4	34.2	18.6
1.30V	293	211.4	137.5	105.2	85.9	63.0	48.2	39.6	34.3	18.7

Constant current discharge characteristics at 25 °C/77 °F Unit: A

F.V. (V/cell) \ Discharge Time	3 Min	5 Min	10 Min	15 Min	20 Min	30 Min	40 Min	50 Min	60 Min	120 Min
1.80V	21.1	14.2	9.9	7.69	6.56	4.88	3.73	3.07	2.70	1.48
1.70V	24.3	17.0	11.0	8.36	6.94	5.09	3.87	3.17	2.76	1.52
1.60V	25.6	18.2	11.6	8.74	7.21	5.20	3.96	3.24	2.80	1.53
1.50V	26.2	18.7	11.8	8.93	7.32	5.27	4.01	3.27	2.83	1.54
1.40V	26.5	19.1	12.0	9.03	7.39	5.31	4.03	3.30	2.85	1.55
1.30V	26.5	19.2	12.1	9.10	7.43	5.34	4.06	3.32	2.86	1.56