



**HR series**

**HR 1224W 12V 24W**



**Valve Regulated Lead Acid Battery**

Maintenance-Free Sealed Lead Acid Battery.  
Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99%.

**Design for Standby Power Applications**

**【Design Life】**

Up to 5 Years in Standby Service at 25°C  
Eurobat (20°C) : 3-5 years, Standard Commercial

**【Operating Temperature Range】**

Nominal Operating Temperature : 25°C (77°F)  
Discharge : -15°C ~ 50°C (5°F~122°F)  
Charge : -15°C ~ 40°C (5°F~104°F)  
Storage : -15°C ~ 40°C (5°F~104°F)

**【Float Charging Voltage】**

13.5 ~ 13.8 VDC/Unit at 25°C (77°F)

**【Equalization Charging Voltage】**

14.4 ~ 15.0 VDC/Unit at 25°C (77°F)

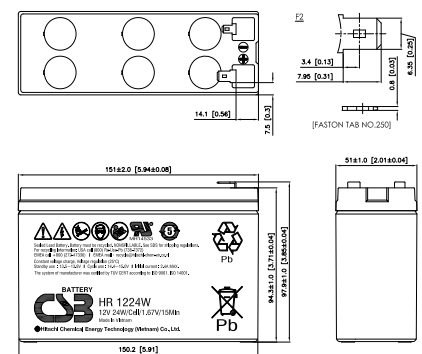
**【Self Discharge】**

Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F);  
Fully recharging is required before usage, and charged sooner if stored at higher temperature than 25°C (77°F).

**Specification**

Design according with IEC 61056-1/2:2012

Nominal Voltage	12V (6 cells per unit)	
Nominal Capacity	24W @15min-rate to 1.67V per cell @25°C (77°F)	
Weight	Approx. 1.95 Kg (4.30 lbs)	
Maximum Discharge Current	100/130A (5sec)	
Internal Resistance	Approx. 20.6 mΩ	
Short Circuit Current	260A	
Maximum Charge Current	2.4A	
Terminal types	F1/F2-Faston Tab187/250	
Terminal breaking Torque	--	
Container Material	ABS (UL 94-HB) & Flame Retardant (94-V0) available upon request	
Dimensions	Length (L)	151.0±2.0 mm 5.94±0.08 inch
	Width (W)	51.0±1.0 mm 2.01±0.04 inch
	Container Height (h)	94.3±1.0 mm 3.71±0.04 inch
	Overall Height (H)	97.9±1.0 mm 3.85±0.04 inch



**Constant Current Discharge Characteristics Unit: A (25°C, 77°F)**

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
1.60V	47.5	33.0	29.0	26.1	22.0	18.9	14.0	11.0	7.95	5.54	4.29	3.43
1.67V	44.1	31.1	27.4	24.7	21.0	18.0	13.5	10.6	7.76	5.42	4.20	3.34
1.70V	42.7	30.3	26.7	24.0	20.5	17.6	13.2	10.5	7.67	5.35	4.15	3.30
1.75V	40.5	28.8	25.4	23.0	19.8	17.0	12.8	10.2	7.56	5.29	4.10	3.26
1.80V	38.4	27.4	24.4	22.2	19.1	16.4	12.5	10.0	7.49	5.23	4.06	3.22
1.85V	36.4	26.0	23.3	21.3	18.5	16.0	12.1	9.84	7.44	5.21	4.04	3.19

**Constant Power Discharge Characteristics Unit: W (25°C, 77°F)**

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
1.60V	570	396	348	313	264	228	168	132	95.4	66.5	51.5	41.2
1.67V	529	373	329	297	251	217	162	128	92.9	64.9	50.3	40.2
1.70V	512	363	320	289	246	212	159	126	92.1	64.4	49.9	39.7
1.75V	486	346	306	277	238	204	154	123	90.8	63.5	49.3	39.2
1.80V	461	329	293	266	229	197	149	121	89.9	62.9	48.8	38.8
1.85V	437	314	281	256	219	187	144	119	89.2	62.5	48.5	38.6

Please refer to the official site for the latest rating confirmation. URL: [www.csb-battery.com](http://www.csb-battery.com)

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Recognized under UL 1989,  
and certified by ISO 9001, 14001.

