



**HRL series**

**HRL 1223W 12V 23W**



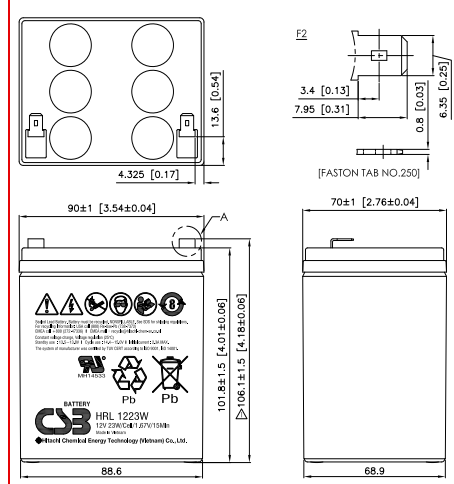
**Valve Regulated Lead Acid Battery**

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

**Design for Standby Power Applications**

<p><b>【Design Life】</b> Up to 8 Years in Standby Service at 25°C Eurobat (20°C) : 6-9 years, General Purpose</p> <p><b>【Operating Temperature Range】</b> 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)</p>	<p><b>【Float Charging Voltage】</b> 13.5 ~ 13.8 VDC/Unit at 25°C (77°F)</p> <p><b>【Equalization Charging Voltage】</b> 14.4 ~ 15.0 VDC/Unit at 25°C (77°F)</p> <p><b>【Self Discharge】</b> 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).</p>
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Specification		Design according with IEC 61056-1/2:2012	
Nominal Voltage	12V (6 cells per unit)		
Nominal Capacity	23W @15min-rate to 1.67V per cell @25°C (77°F)		
Weight	Approx. 2.10 Kg (4.63 lbs)		
Maximum Discharge Current	130A (5sec)		
Internal Resistance	Approx. 19.90 mΩ		
Short Circuit Current	227A		
Maximum Charge Current	2.3A		
Terminal types	F2 terminal -Faston Tab 250		
Terminal hardware Torque	--		
Container Material	ABS (UL 94-HB) & Flame Retardant (94-V0) available upon request		
Dimensions	Length (L)	90.0±1.0 mm	3.54±0.04 inch
	Width (W)	70.0±1.0 mm	2.76±0.04 inch
	Container Height (h)	101.8±1.5 mm	4.01±0.06 inch
	Overall Height (H)	106.1±1.5 mm	4.18±0.06 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	50.7	32.9	28.3	25.0	20.3	17.5	12.9	10.3	7.42	5.33	4.22	3.01
1.67V	46.7	31.4	27.2	24.2	20.0	17.3	12.8	10.2	7.35	5.28	4.18	2.99
1.70V	43.8	30.6	26.6	23.8	19.7	17.0	12.6	10.1	7.29	5.26	4.17	2.98
1.75V	39.7	28.4	25.0	22.6	19.1	16.5	12.3	10.0	7.22	5.21	4.14	2.94
1.80V	35.2	26.0	23.2	21.2	17.9	15.7	11.8	9.61	7.04	5.09	4.05	2.92
1.85V	30.6	22.8	20.7	19.1	16.2	14.3	11.0	8.99	6.58	4.81	3.85	2.78

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	497	337	295	264	221	192	141	114	84.4	62.0	49.8	36.5
1.67V	464	326	287	259	219	190	140	113	84.0	61.6	49.5	36.2
1.70V	445	317	283	258	217	188	139	112	83.6	61.3	49.2	36.0
1.75V	410	301	270	247	209	182	137	111	82.8	60.9	49.0	35.9
1.80V	373	278	252	233	199	175	133	109	80.8	59.7	48.1	35.3
1.85V	323	252	229	212	183	162	124	102	76.6	57.1	46.4	34.3

Please refer to the official site for the latest rating confirmation. URL: [www.csb-battery.com](http://www.csb-battery.com) Issued: 171012

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

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