



HRL 1210W

12V 10W

HRL 1210W is specially designed for high efficient discharge and long life application. It's characteristics are small volume, light weight and high discharge efficiency. It can be used for more than 260 cycles at 100% discharge in cycle service, up to 8 years in standby service.



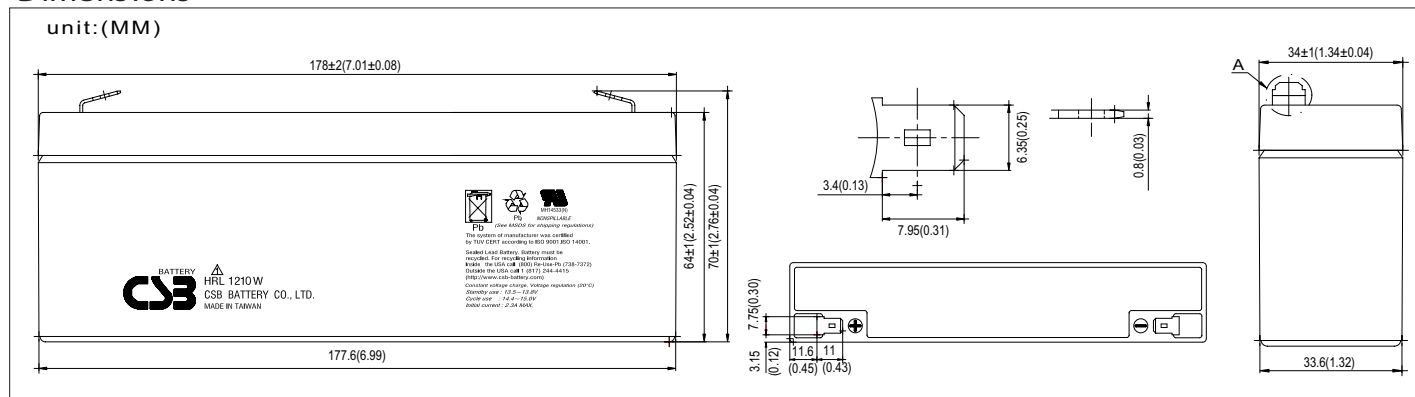
Specification

Cells per unit	6
Voltage per unit	12
Capacity	10W @15 mun-rate to 1.67V per cell @25°C (77°F)
Weight	Approx. 1.1 kg (2.43 lbs)
Maximum Discharge Current	40A(5sec)
Internal Resistance Approx.	Approx. 35mΩ
Operating Temperature Range	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)
Nominal Operating Temperature Range	25°C ±3°C (77°F±5°F)
Float Charging Voltage	13.5 to 13.8 VDC/unit Average at 25°C (77°F)
Recommended Maximum Charging Current Limit	1A
Equalization and Cycle Service	14.4 to 15.0 VDC/unit Average at 25°C (77°F)
Self Discharge	CSB Batteries can be stored for more than 6 months at 25°C(77°F). Please charge batteries before using. For higher temperatures the time interval will be shorter.
Terminal	F2-Faston Tab 250
Container Material	ABS(UL 94-HB/File E50263)*Flammability resistance of (UL 94-V0/File E88637) can be available upon request.



CSB-manufactured batteries are UL-recognized components under UL924 as well as ISO 9001 and ISO 14001 certified.

Dimensions



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

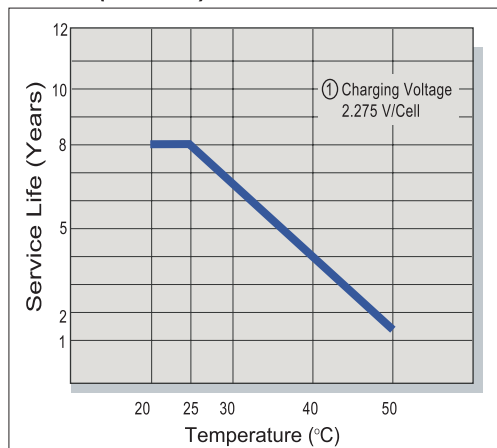
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	19.2	13.7	10.5	8.84	7.47	5.51	4.24	3.06	1.66	1.29
1.67V	18.3	13.3	10.2	8.70	7.37	5.43	4.20	3.03	1.64	1.28
1.70V	17.9	13.0	10.1	8.64	7.32	5.39	4.18	3.02	1.63	1.27
1.75V	17.1	12.5	9.85	8.37	7.15	5.27	4.10	2.98	1.62	1.26
1.80V	16.3	11.8	9.50	8.10	6.98	5.14	4.02	2.93	1.60	1.25
1.85V	15.6	11.1	9.15	7.83	6.81	5.02	3.94	2.89	1.59	1.24

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

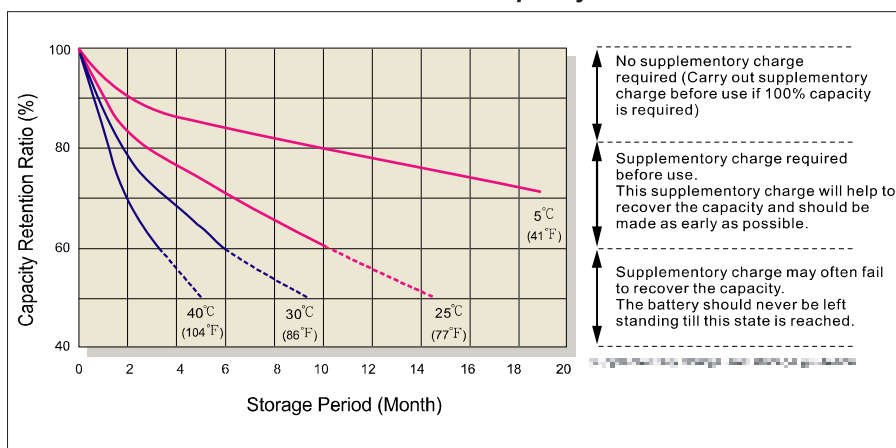
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	200	147	113	95.6	81.5	60.9	47.0	34.1	18.7	14.7
1.67V	193	143	110	94.0	80.5	60.0	46.5	34.0	18.6	14.6
1.70V	189	140	108	92.9	79.8	59.3	46.3	33.9	18.5	14.5
1.75V	182	134	106	91.0	78.9	58.5	46.0	33.5	18.4	14.4
1.80V	175	128	103	89.1	77.3	57.2	45.2	33.0	18.2	14.3
1.85V	169	121	100	86.6	75.8	55.8	44.5	32.6	18.1	14.2

• All mentioned values are average values.

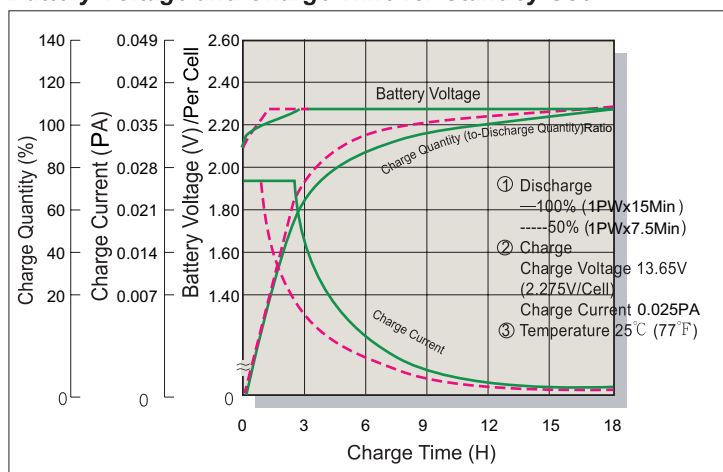
Trickle (or Float) Service Life



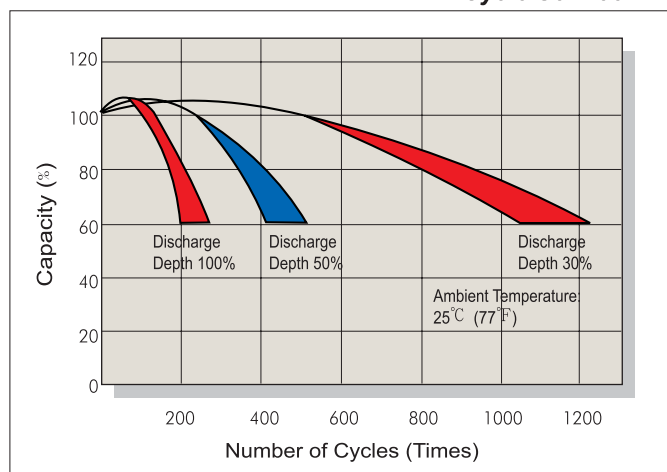
Capacity Retention Characteristic



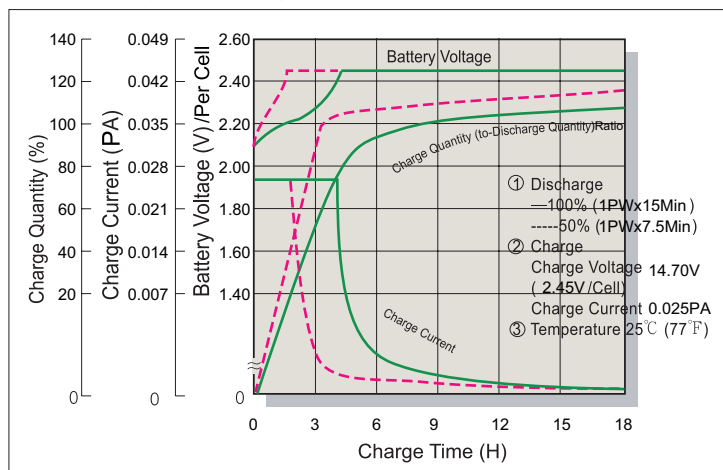
Battery Voltage and Charge Time for Standby Use



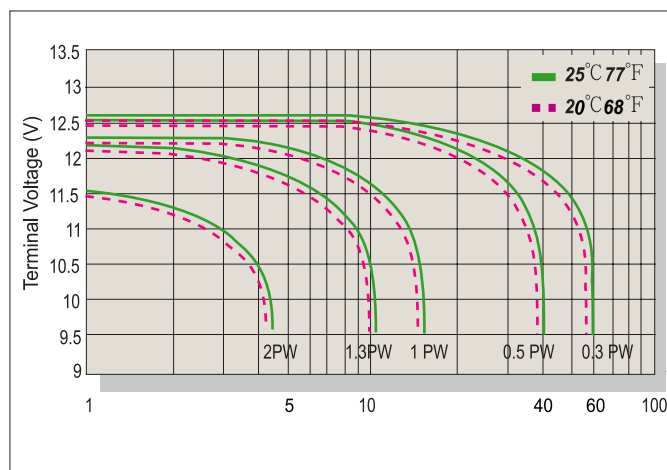
Cycle Service Life



Battery Voltage and Charge Time for Cycle Use



Terminal Voltage (V) and Discharge Time



Charging Procedures

Application	Charge Voltage(V/Cell)			Max.Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25°C(77°F)	2.45	2.40~2.50	0.1PA
Standby	25°C(77°F)	2.275	2.25~2.30	

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/Cell	1.75	1.70	1.60	1.30
Discharge Power(W)	0.1P>(W)	0.1P≤(W)<0.25P	0.25P≤(W)<1.0P	(W)≥1.0P

Sales Office URL:WWW.CSB-BATTERY.COM

CSB BATTERY CO., LTD.
TAIWAN OFFICE
Tel: +886-2-2555-5600
Fax: +886-2-2555-3300
E-mail: service@csb-battery.com.tw

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
SHANGHAI OFFICE
Tel: +86-21-5046-1622, 5046-0833
Fax: +86-21-5064-3314

CSB BATTERY TECHNOLOGIES, INC
USA OFFICE
Tel: +1-817-244-7777/1-8003 CSBUSA(272872)
Fax: +1-817-244-4445
E-mail: csb@csb-battery.com

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
BEIJING OFFICE
Tel: +86-10-6597-8060, 6597-8070
Fax: +86-10-6597-8050
E-mail: chinasisl@csb-battery.com

CSB BATTERY OF NETHERLANDS B.V
NETHERLANDS OFFICE
Tel: +31(0) 180 418 140
Fax: +31(0) 180 418 327
E-mail: eurosales@csb-battery.com

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
SHENZHEN OFFICE
Tel: +86-755-2694-2788/2606/2706
Fax: +86-755-2694-2748
E-mail: she@csb-battery.com.tw