



HR 12120W

12V 120W

HR 12120W is specially designed for high efficient discharge application. Its 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, or three to five years in standby service.



Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	120W @ 15minute-rate to 1.67V per cell @25 °C(77°F)
Weight	Approx. 10.2kg(22.5 lbs)
Maximum Discharge Current	400A(5sec)
Internal Resistance	Approx. 9mΩ
Operating Temperature Range	Discharge: -20°C~50°C(-4°F~122°F) Charge: 0°C~40°C(32°F~104°F) Storage: -20°C~40°C(-4°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	12.0A
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	Thread Insert & Bolt
Container Material	-ABS (UL94-HB)*Flammability resistance of UL94-V2 can be available upon request.



MH 14533(N)



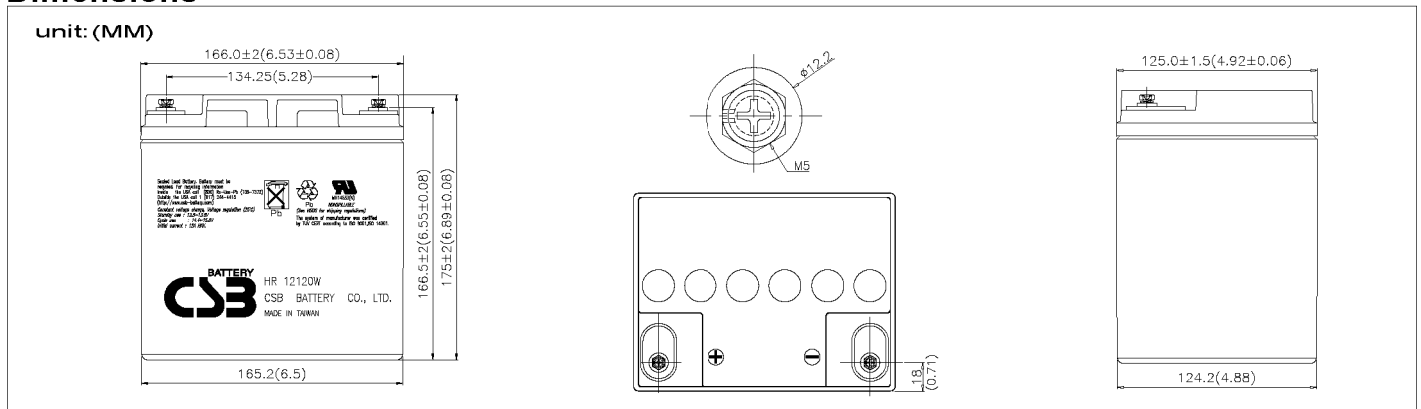
ISO 9001
No.:041005117



ISO 14001
NO. UM 1-12-0045

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)

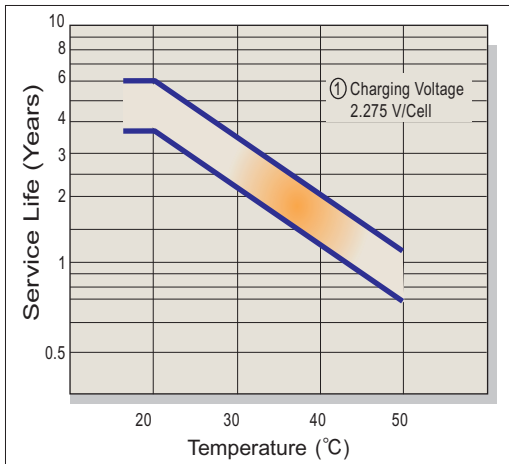
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	148	128	99.2	85.0	80.7	62.5	49.0	35.2	21.8	13.8
1.67V	138	117	92.2	83.7	78.9	61.3	47.8	34.8	21.4	13.5
1.70V	133	113	89.2	83.2	78.1	60.8	47.3	34.6	21.3	13.3
1.75V	123	99.2	86.2	80.3	75.1	58.0	46.0	34.2	21.0	13.0
1.80V	113	85.8	83.2	77.5	72.1	55.2	44.6	33.8	20.8	12.7
1.85V	102	72.5	80.2	74.7	69.1	52.3	43.2	33.5	20.6	12.3

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

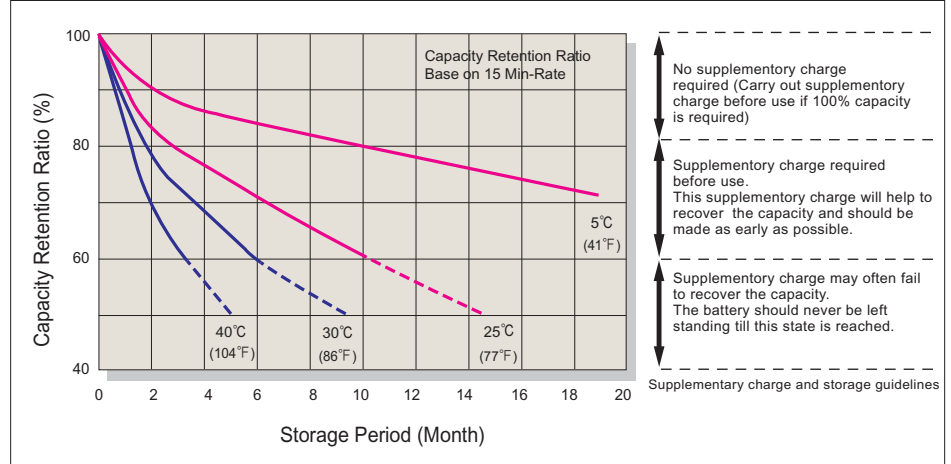
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	1770	1530	1190	1020	968	750	588	422	261	166
1.67V	1651	1404	1106	1005	946	736	574	417	257	162
1.70V	1600	1350	1070	998	937	730	568	415	255	160
1.75V	1475	1190	1034	964	901	696	552	411	253	156
1.80V	1350	1030	998	930	865	662	535	406	250	152
1.85V	1225	870	962	896	829	628	519	402	248	148

- All mentioned values are average values.
- Low rate discharge mode (over 90 mins.) is not recommended.

Trickle (or Float) Service Life



Capacity Retention Characteristic



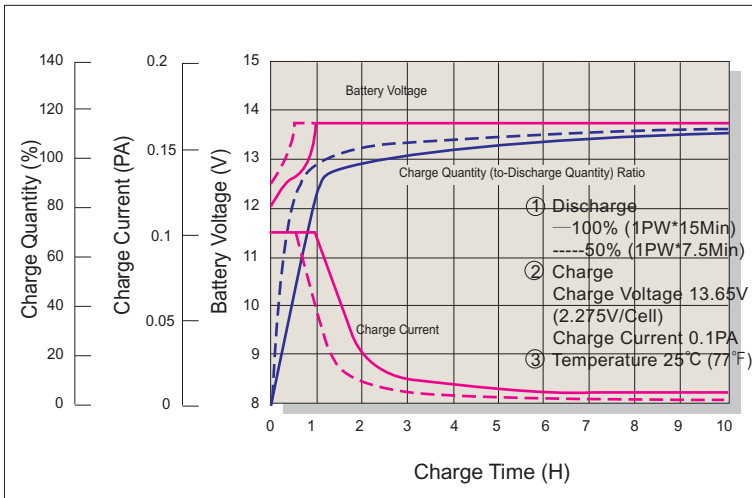
No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required)

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

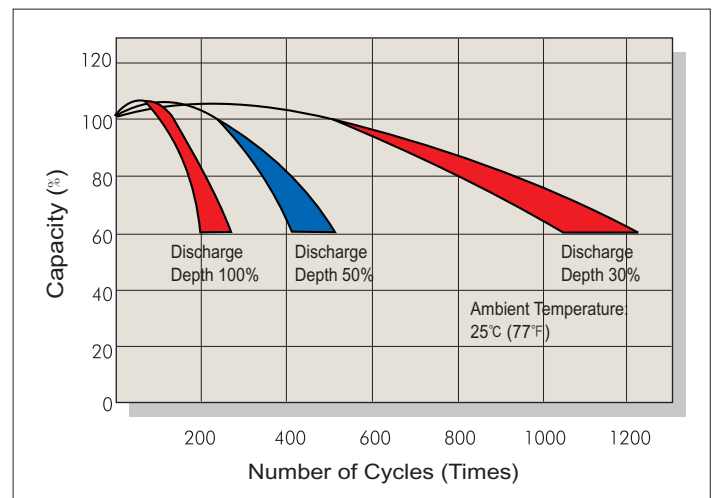
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached.

Supplementary charge and storage guidelines

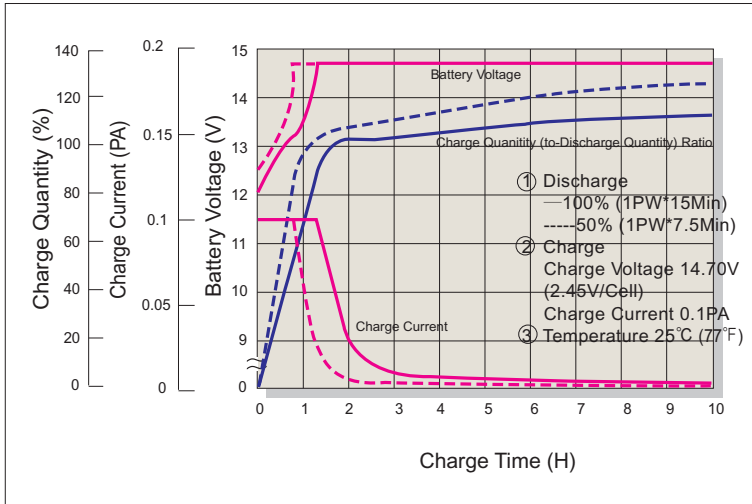
Battery Voltage and Charge Time for Standby Use



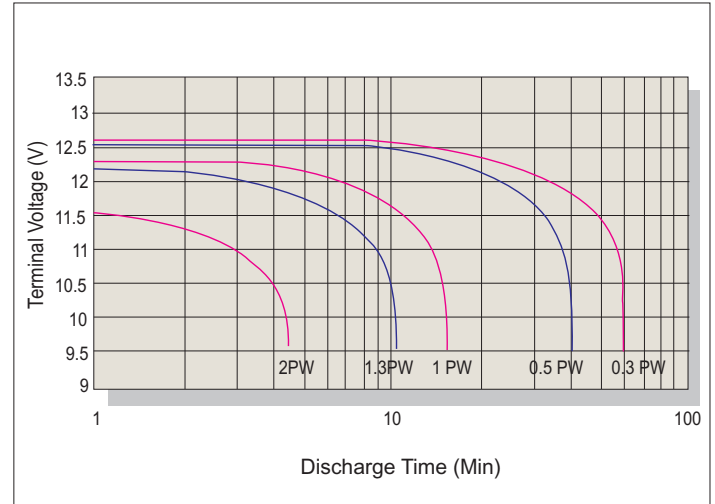
Cycle Service Life



Battery Voltage and Charge Time for Cycle Use



Terminal Voltage (V) and Discharge Time (25°C/77°F)



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	