



valve regulated
sealed lead acid type
rechargeable battery

sun battery®

MB12-7.0UPS






Specification

Nominal Voltage	12V	
Nominal Capacity(8HR)	7.0AH	
Dimension	Length	151 ± 1mm (5.95 inches)
	Width	65 ± 1mm (2.56 inches)
	Container Height	94.5 ± 1mm (3.72 inches)
	Total Height (with Terminal)	100 ± 1mm (3.94 inches)
	Approx Weight	Approx 2.5 kg (5.51lbs)
Terminal	T1 / T2	
Container Material	ABS	
Rated Capacity	7.32 AH/0.732A	(10hr, 1.80V/cell, 25°C/77°F)
	7.00 AH/0.875A	(8hr, 1.75V/cell, 25°C/77°F)
	6.23 AH/1.25A	(5hr, 1.75V/cell, 25°C/77°F)
	5.75AH/1.92A	(3hr, 1.75V/cell, 25°C/77°F)
	5.00 AH/5.0A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	105A (5s)	
Internal Resistance	Approx 20mΩ	
Operating Temp. Range	Discharge : -15~50°C (5~122°F)	
	Charge : 0~40°C (32~104°F)	
	Storage : -15~40°C (5~104°F)	
Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)	
Cycle Use	Initial Charging Current less than 2.1A. Voltage	
	14.4V~15.0V at 25°C (77°F) Temp. Coefficient -30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage	
	13.5V~13.8V at 25°C (77°F) Temp. Coefficient -20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	Sunbattery MB series batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	
Life expectancy	3~5 years at 25°C with charge voltage 2.25V/cell	

Applications

- ◆ UPS (High rate)
- ◆ High power backup supply
- ◆ Emergency power supply
- ◆ Starting system
- ◆ Power tools
- ◆ Emergency lighting
- ◆ Electric starting

	Intertek ETL SEMKO	 MH45680
 ISO14001	 ISO9001	

Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	13.7	11.1	8.96	7.91	6.17	4.67	3.86	2.28	1.75	1.38	1.10	0.98	0.811	0.690	0.394
1.80V/cell	18.4	14.2	10.8	9.36	7.28	5.43	4.32	2.48	1.88	1.47	1.19	1.05	0.860	0.732	0.398
1.75V/cell	20.7	15.6	11.8	10.1	7.56	5.64	4.52	2.58	1.92	1.51	1.25	1.08	0.875	0.739	0.401
1.70V/cell	22.8	17.0	12.6	10.6	7.87	5.86	4.67	2.68	1.97	1.55	1.28	1.10	0.887	0.746	0.409
1.65V/cell	25.1	18.4	13.4	11.2	8.30	6.01	4.82	2.75	2.05	1.60	1.29	1.13	0.901	0.762	0.414
1.60V/cell	27.7	20.0	14.4	12.0	8.76	6.27	5.00	2.85	2.12	1.65	1.33	1.15	0.910	0.769	0.417

Constant Power Discharge (Watts) at 25 °C (77°F)

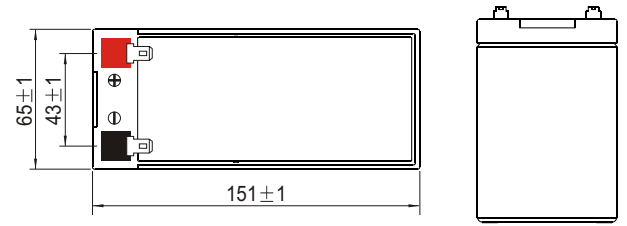
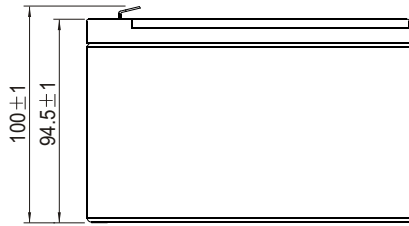
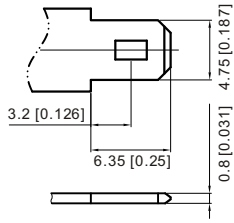
F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	25.0	20.6	16.7	14.9	11.8	8.98	7.45	4.42	3.41	2.70	2.17	1.93	1.60	1.37	0.781
1.80V/cell	33.2	26.0	19.9	17.4	13.7	10.4	8.30	4.79	3.65	2.87	2.31	2.06	1.69	1.45	0.786
1.75V/cell	36.6	28.1	21.5	18.5	14.1	10.7	8.64	4.95	3.70	2.92	2.42	2.11	1.72	1.46	0.792
1.70V/cell	39.2	29.9	22.6	19.3	14.6	11.0	8.88	5.14	3.80	2.99	2.48	2.15	1.74	1.47	0.807
1.65V/cell	42.6	32.0	23.9	20.4	15.2	11.2	9.12	5.25	3.94	3.08	2.49	2.19	1.76	1.50	0.817
1.60V/cell	46.0	33.9	25.1	21.5	16.0	11.6	9.39	5.40	4.04	3.17	2.56	2.23	1.78	1.51	0.820



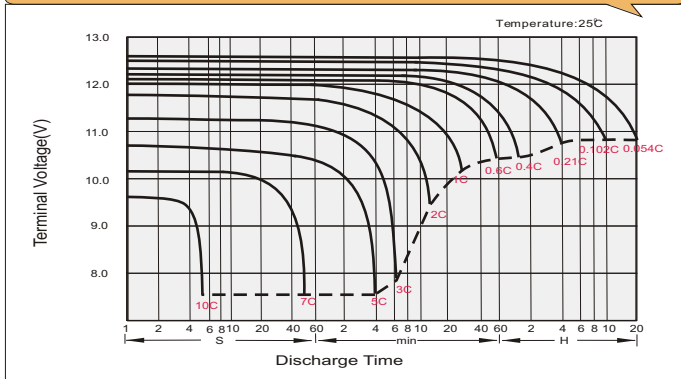
Dimensions

T1 Terminal

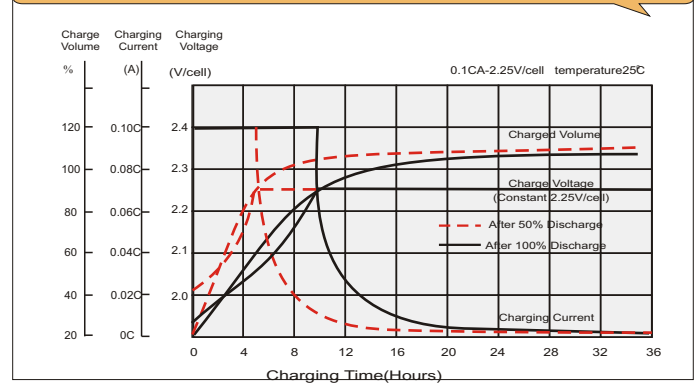
Unit: mm [inches]



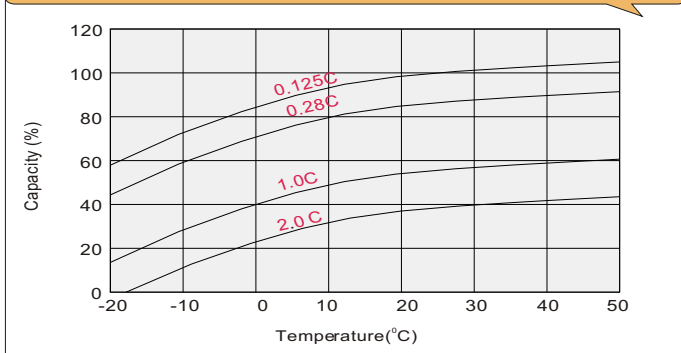
Discharge Characteristics



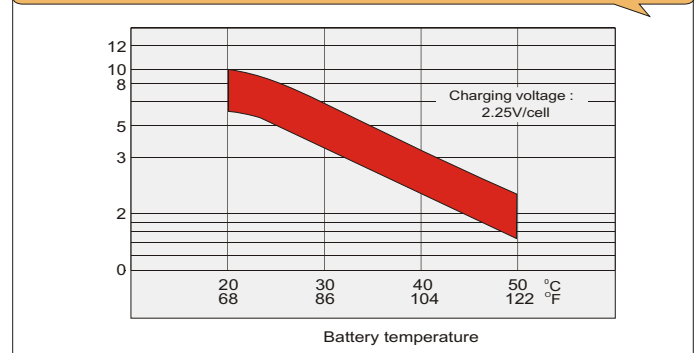
Float Charging Characteristics



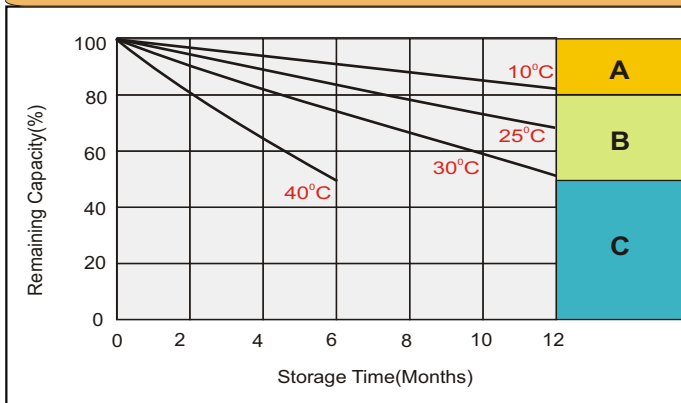
Temperature Effects in Relation to Batter Capacity



Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



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

B Supplementary charge required before use. Optional charging way as below:
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8-10 hours at limited current 0.05CA.

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