

MR18-12 is a general purpose battery up to 5 years in standby service or more than 260 cycles at 100% discharge in cycle service. As with all Marvel batteries, all are rechargeable, highly efficient, leak proof and maintenance free.



MADE IN VIETNAM / CHINA

Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	18Ah @ 20hr-rate to 1.75V per cell @25°C (77°F)
Weight	Approx. 5.6 kg(12.32 lbs)
Maximum Discharge Current	270A (5sec)
Internal Resistance	Approx. 8 mΩ
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	5.4A
Equalization and Cycle Service	14.4 to 14.8 VDC/unit Average at 25°C (77°F)

Self Discharge

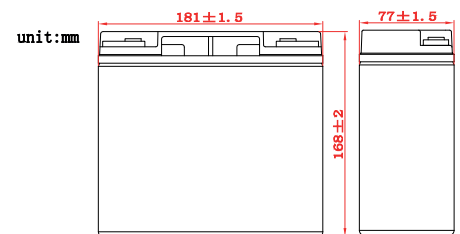
Marvel Batteries can be stored for more than 6 months at 25°C (77°F). Please charge batteries before using. For higher temperatures the time interval will be shorter.

Terminal

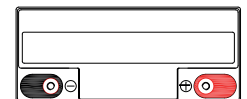
Thread lead alloy recessed terminal to accept M6 bolt

Container Material

ABS(UL 94-HB) & Flammability resistance of (UL 94-V0) can be available upon request.



Terminal



Dimensions :

Overall Height (H)	Container height (h)	Length (L)	Width (W)
168±2	168±2	181±1.5	77±1.5

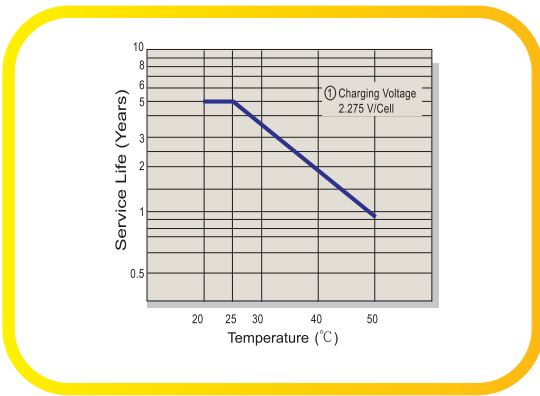
Constant Current Discharge Characteristics Unit : A (25°C , 77°F)

F.V/Time	5min	15min	30min	1h	3h	5h	10h	20h
1.60V	64.9	32.4	19.65	11.49	4.79	3.18	1.733	0.927
1.67V	60.3	31.0	19.20	11.35	4.66	3.14	1.714	0.914
1.7V	57.3	30.4	18.91	11.22	4.63	3.07	1.709	0.909
1.75V	54.0	29.3	18.63	11.01	4.56	3.04	1.692	0.900
1.8V	48.0	26.7	17.46	10.45	4.42	2.91	1.650	0.873
1.85V	43.1	23.6	16.50	9.90	4.13	2.74	1.586	0.846

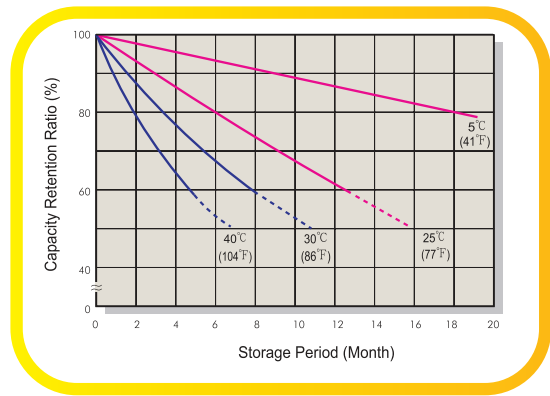
Constant Power Discharge Characteristics Unit : W (25°C , 77°F)

F.V/Time	5min	15min	30min	1h	3h	5h	10h	20h
1.60V	119.2	61.4	37.9	22.61	9.44	6.27	3.411	1.836
1.67V	112.3	59.8	37.5	22.56	9.34	6.22	3.398	1.824
1.7V	106.3	58.1	36.87	22.20	9.21	6.11	3.388	1.814
1.75V	100.2	56.1	36.3	21.77	9.09	6.04	3.349	1.805
1.8V	89.0	51.1	34.1	20.65	8.81	5.80	3.267	1.743
1.85V	80.5	45.6	32.4	19.74	8.31	5.51	3.169	1.704

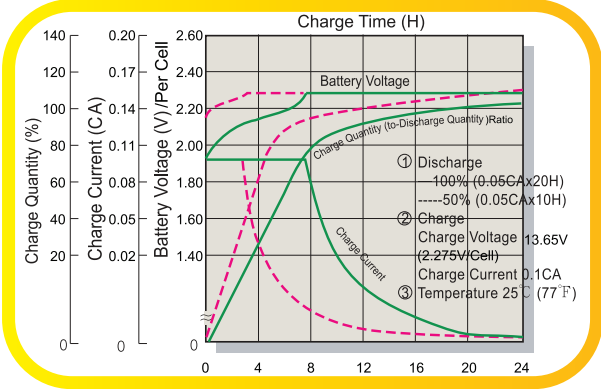
Trickle(or Float)Design Life



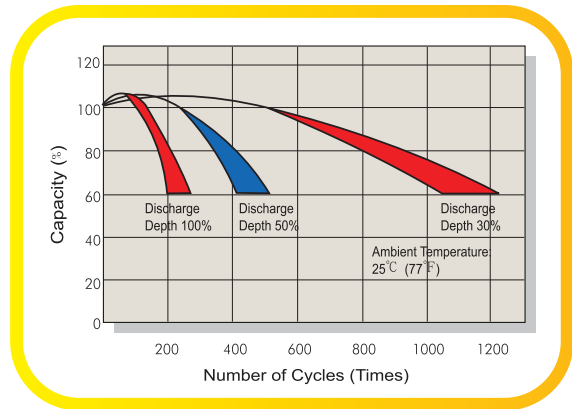
Capacity Retention Characteristic



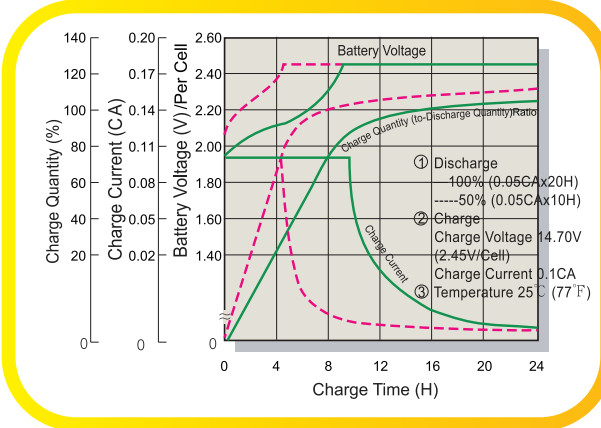
Battery Voltage and Charge Time for Standby Use



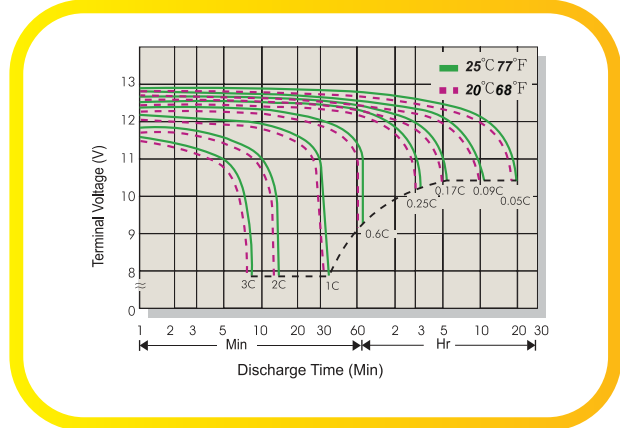
Cycle Service Life



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	0.3C
Standby	25°C (77°F)	2.275	2.25~2.30	

Self-discharge Characteristics

Storage time	Preservation rate
3 Months	91%
6 Months	82%
12 Months	64%

Specification

Final Discharge Voltage V/Cell	1.75	1.70	1.65	1.60
Discharge Current(A)	0.2C>(A)	0.2C<(A)<0.5C	0.5C<(A)<1.0C	(A)>1.0C

Effect of temperature on capacity (10HR)

Temperature	Dependency of Capacity(10HR)
40	102%
25	100%
0	85%
-15	65%