

# LEAD ACID (AGM) BATTERY

## MR8-12

Marvel MR series is a general-purpose battery with 6~8 years design life in float service. It meets with IEC, JIS, BS, GB/T AND YD/T standards. With advanced AGM valve regulated technology and high purity raw material. The Marvel MR series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/EPS, medical equipment, emergency light and security system applications.

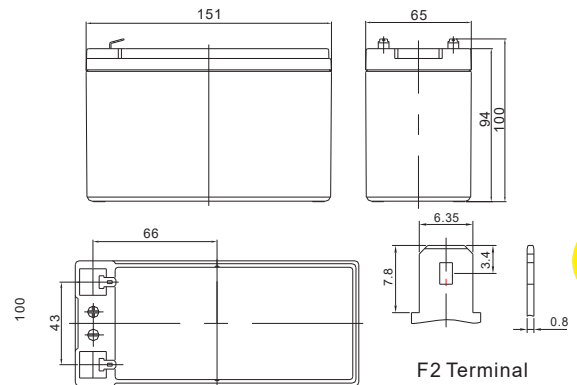


MADE IN VIETNAM / CHINA

### SPECIFICATION

Cells Per Unit	6
Voltage Per Unit	12
Capacity °C	8Ah@20hour-rate to 1.75V per cell @25°C
Weight	Approx. 2.08 Kg (Tolerance±5.0%)
Length	151± 1.5mm (5.94 inches)
Width	65± 1.5mm (2.56 inches)
Height	94± 1.5mm (3.70 inches)
Total Height	100± 1.5mm (3.94 inches)
Internal Resistance	Approx. 30 mΩ
Terminal	F1/F2
Max. Discharge Current	80A (5 sec)
Design Life	6~8 years (Float charging)
Maximum Charging Current	2.4 A
Reference Capacity	C3 6.19AH
	C5 6.98AH
	C10 7.48AH
	C20 8.00AH
Float Charging Voltage	13.7 V~13.9 V @ 25°C Temperature Compensation: -3mV/ °C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25 Temperature Compensation: -4mV/ °C/Cell
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°~60°C
Normal Operating Temperature Range	25°C±5°C
Self Discharge	Marvel Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C .Please charged batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

### Dimensions



Length	151±1.5mm (5.94 inches)
Width	65±1.5mm (2.56 inches)
Height	94±1.5mm (3.70 inches)
Total Height	100±1.5mm (3.94 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

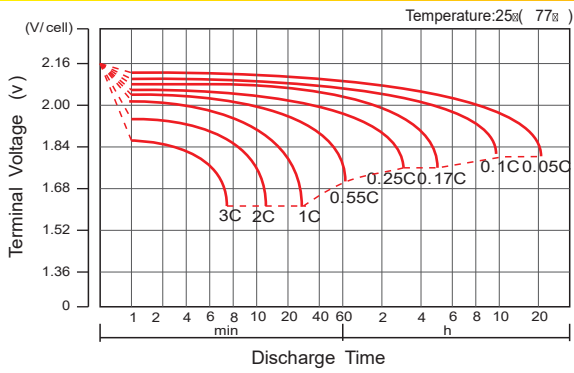
### Constant Current Discharge Characteristics :A(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	18.97	13.41	9.692	5.567	3.055	1.876	1.410	1.138	0.943	0.607	0.493	0.260
1.65V	17.64	12.67	9.266	5.344	2.950	1.816	1.366	1.108	0.919	0.600	0.487	0.256
1.70V	15.92	11.66	8.679	5.108	2.854	1.756	1.329	1.077	0.895	0.591	0.480	0.253
1.75V	14.26	10.68	8.076	4.882	2.750	1.695	1.290	1.050	0.872	0.583	0.473	0.250
1.80V	12.52	9.664	7.457	4.666	2.645	1.634	1.250	1.020	0.850	0.573	0.467	0.248
1.85V	9.939	7.898	6.188	4.019	2.372	1.497	1.155	0.948	0.792	0.538	0.440	0.235

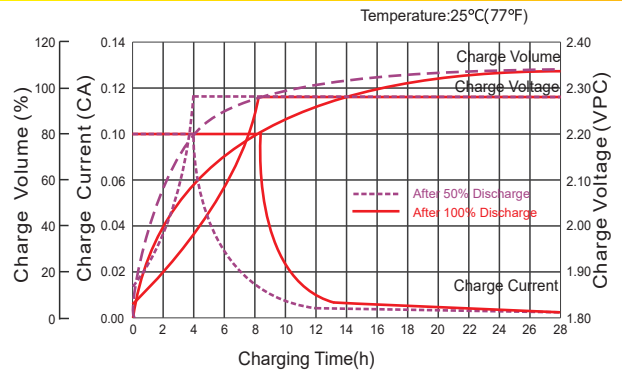
### Constant Power Discharge Characteristics : WPC(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	31.45	22.79	16.94	10.11	5.741	3.555	2.693	2.185	1.818	1.186	0.969	0.513
1.65V	29.58	21.95	16.44	9.809	5.576	3.458	2.621	2.134	1.778	1.175	0.959	0.505
1.70V	27.30	20.58	15.63	9.469	5.428	3.363	2.561	2.084	1.737	1.159	0.945	0.500
1.75V	25.00	19.18	14.75	9.144	5.261	3.260	2.495	2.038	1.699	1.145	0.934	0.494

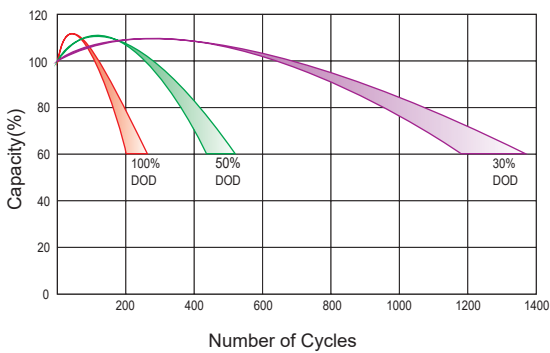
### Discharge Characteristics Curve



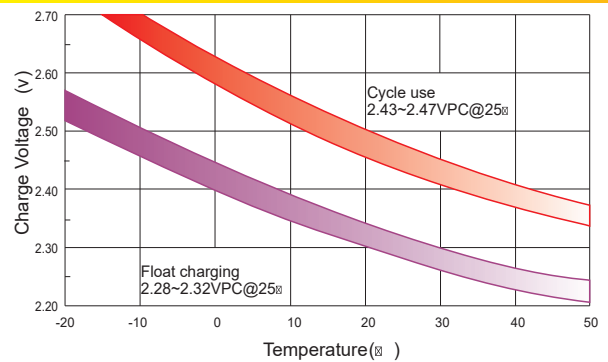
### Charge Characteristic Curve For Standby Use



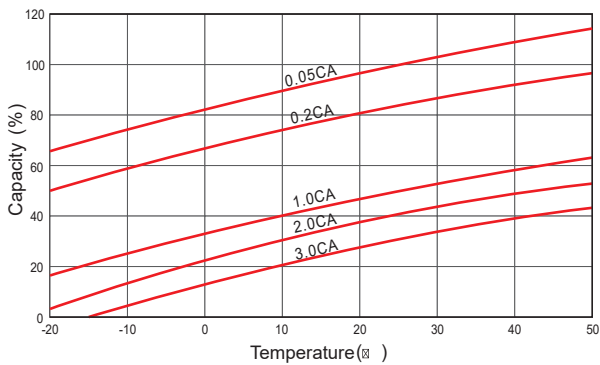
### Cycle Life In Relation To Depth Of Discharge



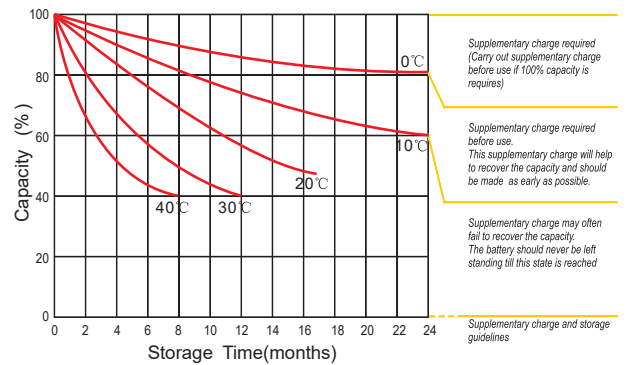
### Relationship Between Charging Voltage And Temperature



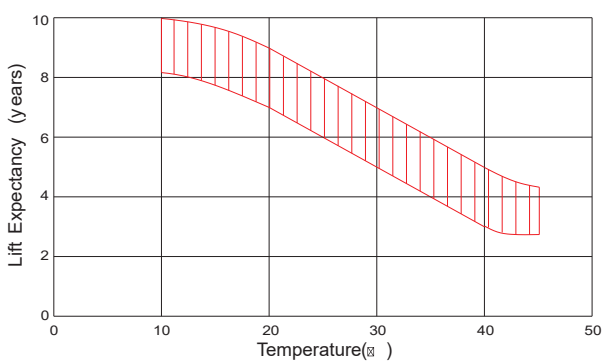
### Temperature Effects On Capacity



### Storage Characteristics



### Effect Of Temperature On Long Term Life



### Life Characteristics Of Standby Use

