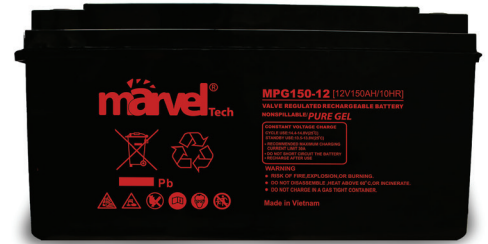


PURE GEL BATTERY

MPG150-12

GEL series has a long service life ,Use of high purity lead and gel electrolytes.Suitable for solar & wind system, CATV, marine,deep discharge UPS, and telecommunication, etc. As with all Marvel batteries, all are rechargeable,highly efficient,leak proof and maintenance free



Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	150Ah @ 10hr-rate to 1.8V per cell @25°C (77°F)
Weight	Approx. 42kg(92.59 lbs)
Maximum Discharge Current	1200A (5sec)
Internal Resistance	Approx. 3.5mΩ
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	30A
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 M8 bolt
Container Material	ABS(UL 94-HB) & Flammability resistance of (UL 94-V0) can be available upon request.



MH 27774



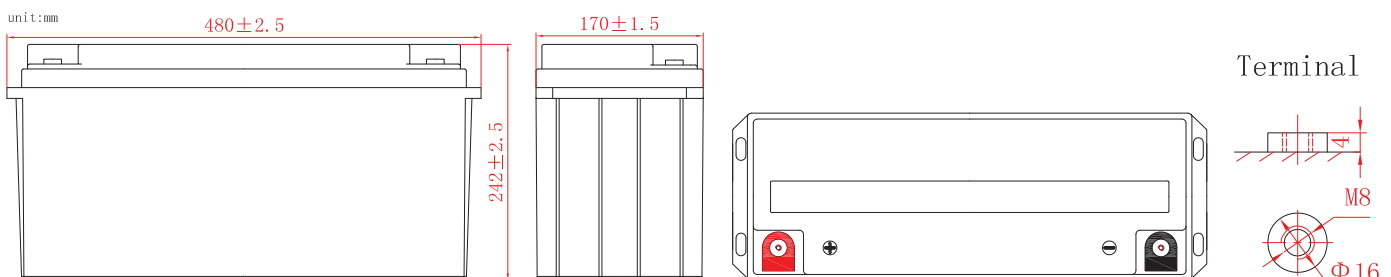
IT1548HL06061801



Marvel is also certified by ISO 9001 and ISO 14001.

Dimensions :

Unit: mm	Overall Height (H)	Container height (h)	Length (L)	Width (W)
	242±2.5	242±2.5	480±2.5	170±1.5



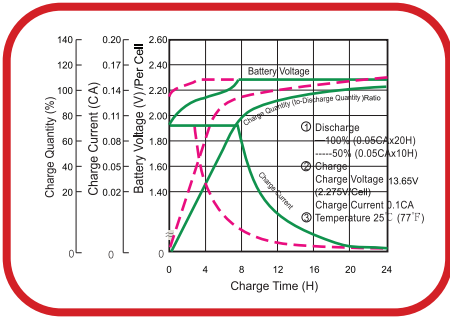
Constant Current Discharge Characteristics Unit : A(25°C/77° F)

F.V/Time	30min	45min	1h	3h	5h	8h	10h	20h
1.60V	158.0	116.2	95.6	40.2	27.1	18.54	15.37	8.20
1.67V	155.2	114.1	94.3	39.9	27.0	18.49	15.35	8.17
1.7V	153.0	112.8	93.2	39.6	26.8	18.44	15.32	8.15
1.75V	147.7	109.7	90.2	38.9	26.4	18.28	15.24	8.08
1.8V	140.8	105.8	86.4	37.5	25.7	17.96	15.00	7.96
1.85V	131.7	100.5	80.1	34.4	23.9	17.13	14.41	7.69

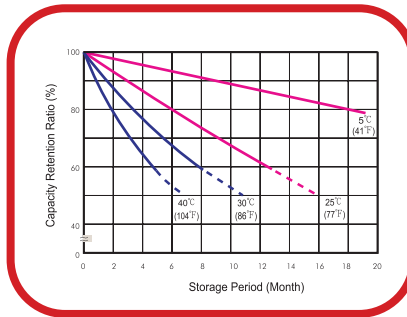
Constant Power Discharge Characteristics Unit : : W/cell (25°C/77° F)

F.V/Time	30min	45min	1h	3h	5h	8h	10h	20h
1.60V	261.0	194.8	162.8	75.4	53.0	36.22	30.26	16.13
1.67V	253.9	189.5	160.7	74.7	52.8	36.05	30.19	16.05
1.7V	246.3	185.5	159.2	74.1	52.7	35.96	30.12	16.00
1.75V	232.6	176.2	155.3	72.7	52.0	35.67	29.86	15.85
1.8V	215.4	164.4	151.3	70.1	50.6	35.03	29.40	15.65
1.85V	192.5	148.1	142.5	65.1	47.5	33.83	28.50	15.21

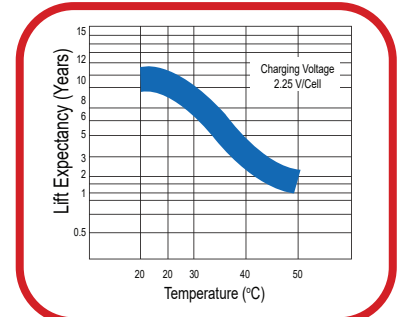
Battery Voltage and Charge Time for Standby Use



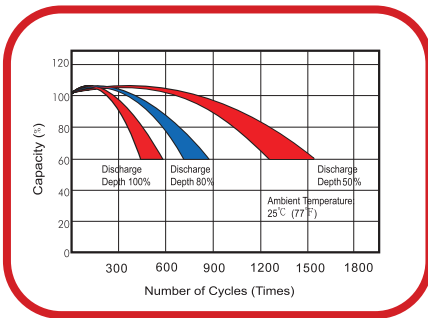
Capacity Retention Characteristic



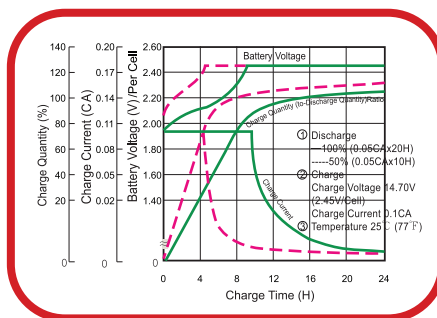
Trickle(or Float) Design Life



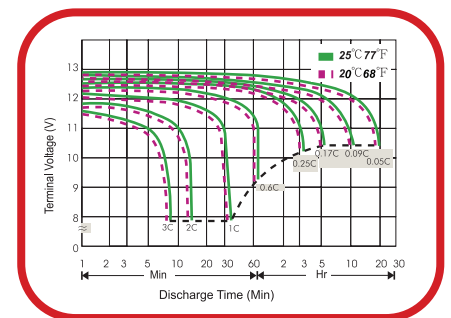
Cycle Service Life



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	

Discharge Current VS. Discharge Voltage

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 °C	102%
25 °C	100%
0 °C	85%
-15 °C	65%

Self-discharge Characteristics

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

