General features for MPb Series (AGM) battery

- Stable quality & high reliability.
- Unique contstruction and sealing technique guarantees.
- Design life 10years in float service;the battery comply to the most popular international standards,like IEC60896-21/22,etc
- Maintenance-free operation.
- UL-recognized component.
- Heavy duty grids: The heavy-duty lead calcium-alloy grids ,provide an extra margin of performance and service life in float & cyclic.
- Case and cover are available in both standard and flame retardant ABS.
- Low self discharge;low pressure venting system.

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MP12-40 (12V40Ah)

Specifications

Nominal Voltage			12V
Rated capacity (10 hour rate)			40Ah
Dimensions (±2mm)	Total Height	T16	171 mm (6.73 inches)
		T9	171 mm (6.73 inches)
	Height		171 mm (6.73 inches)
	Length		197 mm (7.73 inches)
	Width		166 mm (6.54inches)
Weight Approx (±3%)			12.5Kg (27.5 lbs)

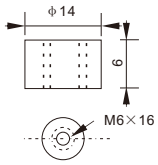
Battery picture and construction

Battery Construction

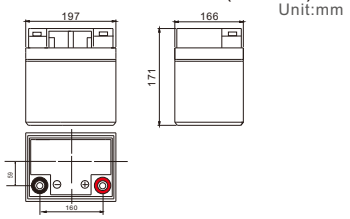
Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Dilute sulfuric acid	Fiberglass	Rubber	Copper

Outer dimension and terminal

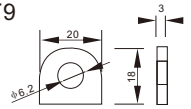
Terminal:
T16

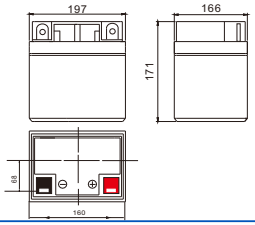


Outer dimensions(±2mm)
Unit:mm



Terminal:
T9





Characteristics

Capacity 25℃(77℉)	10 hour rate(4A,10.8V) 5 hour rate(6.4A,10.5V) 1 hour rate(24A,9.6V)	40Ah 32Ah 24Ah
Internal Resistance	Full charged battery at 25℃(77℉)	Appox 8.2 mΩ
Capacity affected by Temperature (20hour rate)	40℃ (104℉) 25℃ (77℉) 0℃ (32℉) -15℃ (5℉)	102% 100% 85% 65%
Remaining capaicty Self-Discharge At 25℃(77℉)	Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage	91% 82% 64%
Terminal type	T16 (Option T9)	
Max. Discharge current 25℃/(77℉)	400A (5Seconds)	
Nominal operating temperature	25℃ ±5℃(77℉ ±9℉)	
Operating Temperature Range	Discharge Charge Storage	-15℃～50℃ (5℉～122℉) -10℃～50℃ (14℉～122℉) -20℃～50℃ (-4℉～122℉)
Charge methods (constant Voltage) At 25℃(77℉)	Cycle use	Initial Charging Current less than 10A Voltage 14.5-14.9V Temperature compensation:-30mV/℃
	Standby use	Voltage 13.5-13.8V Temperature compensation:-18mV/℃

Constant current discharge (25℃ , 77 ℉)

Unit:A

Constant power discharge (25℃ , 77 ℉)

Unit:watts

Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25℃(77℉)

Time		10min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	80.0	44.0	24.0	14.0	10.4	8.4	7.1	4.6	4.4	2.28
	W	848	469	257	151	113	92	78.3	51.4	48.8	25.54
10.20V	A	76.0	43.6	22.6	13.4	10.2	8.2	7.0	4.6	4.1	2.24
	W	836	482	250	150	115	93	79	52	47	25.42
10.50V	A	68.0	40.8	22.0	13.0	10.0	8.0	6.8	4.5	4.1	2.21
	W	762	459	249	149	115	92	78	52	47	25.44
10.80V	A	64.0	37.6	21.2	12.7	9.8	7.8	6.1	4.4	4.0	2.18
	W	726	429	243	147	114	91	71	51	47	25.44
11.10V	A	60.0	33.6	20.0	12.4	9.4	7.6	5.8	4.3	3.9	2.16
	W	690	388	232	145	110	90	68	50	46	25.49

(Above characteristics data are average values obtained within three charge/discharge cycles,not the minimum values.)

VRLA Battery (AGM technology)
Maintenance-free Sealed Lead Acid Rechageable Battery

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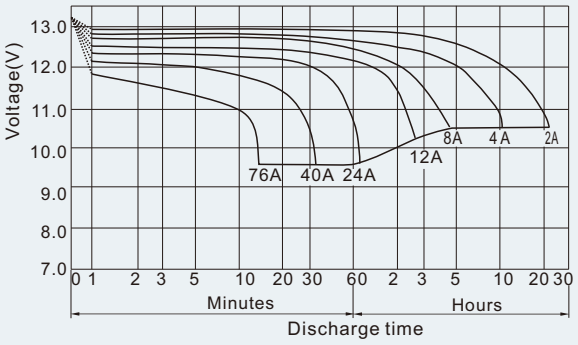
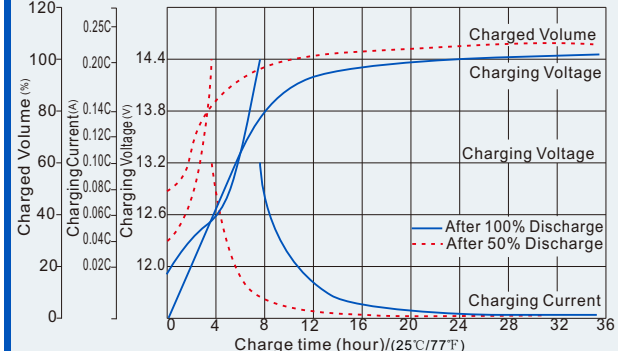
MP12-40 (12V40Ah)

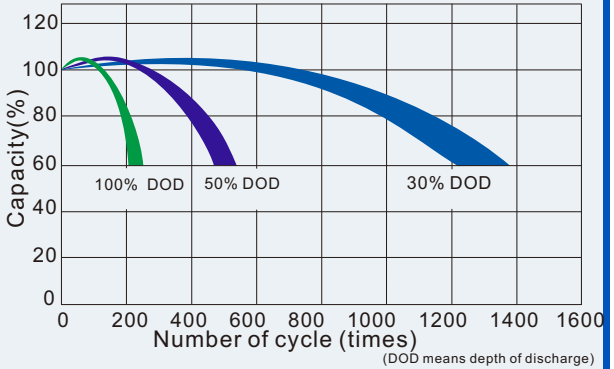
Discharge characteristics (25℃,77°F)



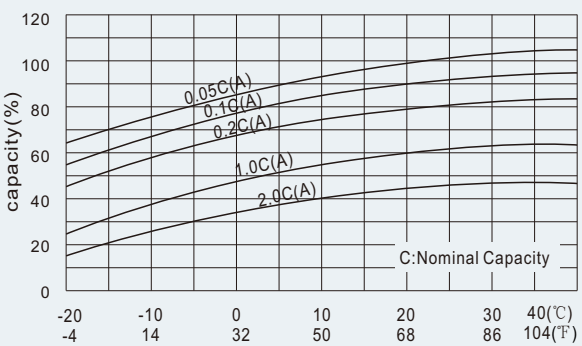
Charge characteristics (25℃,77°F)



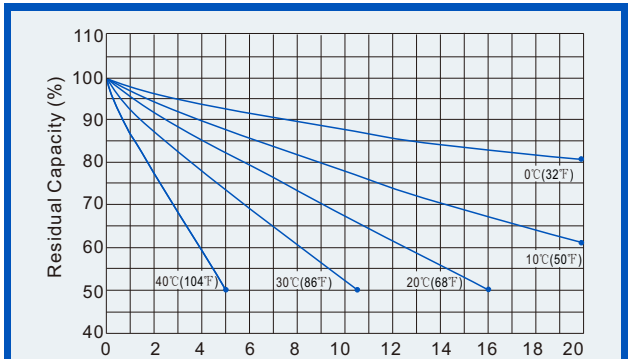
Life characteristics of Cyclic Use (25℃,77°F)



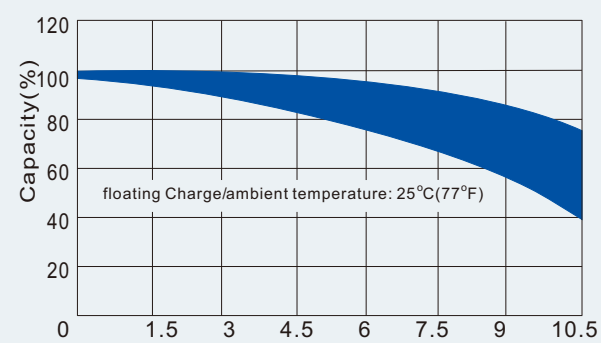
Effect of Temperature on capacity



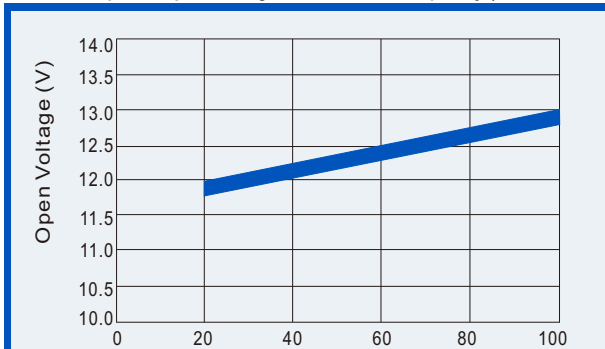
Self-discharge characteristics



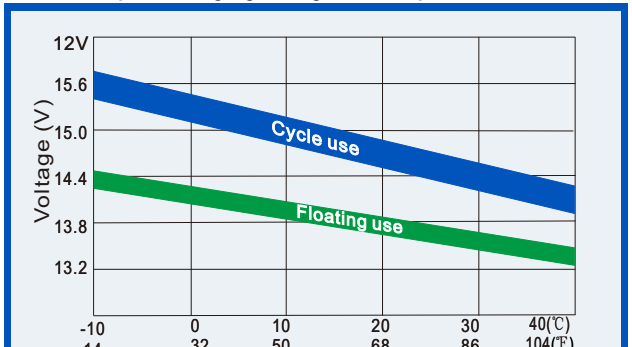
Life Characteristics of float service (25℃,77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life