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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MP12-230 (12V230Ah)

Specifications

Nominal Voltage			12V
Rated capacity (10 hour rate)			230 Ah
Dimensions (±2mm)	Total Height	T12	241 mm (9.45inches)
		T19	225 mm (8.82inches)
	Height		220 mm (8.66 inches)
	Length		520 mm (20.55 inches)
	Width		268 mm (10.55 inches)
Weight Approx (±3%)			66.0 Kg (145.50lbs)

Battery picture and construction

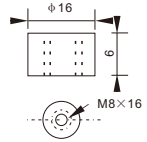
Battery Construction

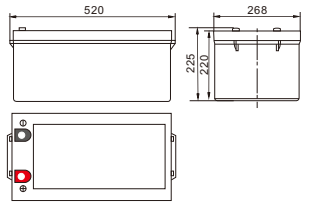
Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Dilute sulfuric acid	Fiberglass	Rubber	Copper

Outer dimension and terminal

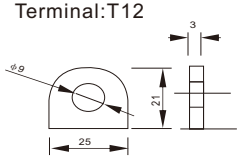
Outer dimensions(±2mm) Unit:mm

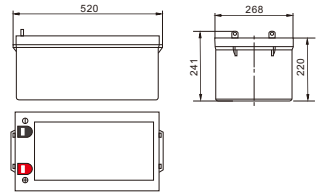
Terminal:T19





Terminal:T12





Characteristics

Capacity 25℃(77℉)	10 hour rate(23 A,10.8V) 5 hour rate(36.8A,10.5V) 1 hour rate(138 A,9.6V)	230Ah 184Ah 138Ah
Internal Resistance	Full charged battery at 25℃(77℉)	Approx 2.8 mΩ
Capacity affected by Temperature (10hour 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		T19 (Option T12)
Max. Discharge current 25℃/(77℉)		1800A (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 57.5A 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		5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	737	485	391	262.2	138.0	80.5	59.1	46.0	38.0	26.91	24.15	13.04
	W	7603	5183	4195	2819	1490	884	658	518	431	308	279	151.6
10.20V	A	713	438	368	250.7	129.7	76.8	57.5	44.9	37.3	26.22	23.69	12.65
	W	7620	4890	4123	2814	1467	885	666	522	434	307	278	148.4
10.50V	A	690	392	322	234.6	125.6	75.0	56.1	44.2	36.8	25.99	23.23	12.65
	W	7537	4456	3677	2700	1454	870	654	517	431	306	275	149.5
10.80V	A	665	369	299	216.2	121.4	73.1	54.7	43.5	35.9	25.30	23.00	12.42
	W	7463	4257	3450	2505	1414	857	645	513	424	300	273	147.9
11.10V	A	643	346	276	193.2	117.3	71.3	52.9	42.3	35.0	24.61	21.85	11.73
	W	7290	4006	3218	2260	1379	843	628	504	417	295	263.8	142.2

(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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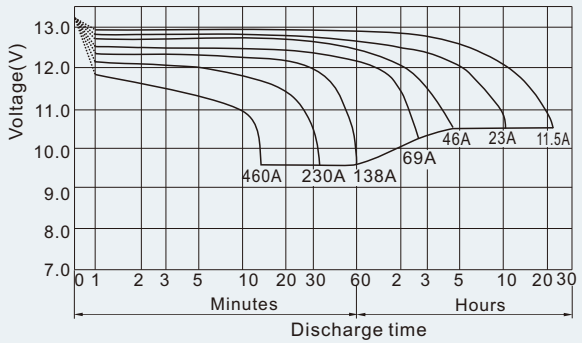
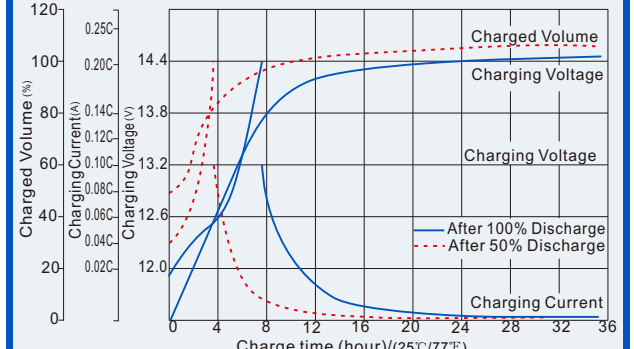
MP12-230 (12V230Ah)

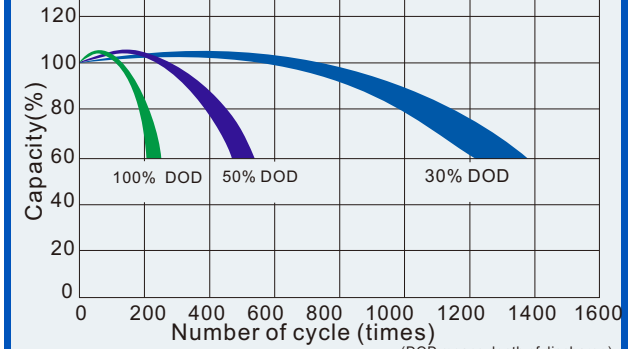
Discharge characteristics (25℃,77°F)



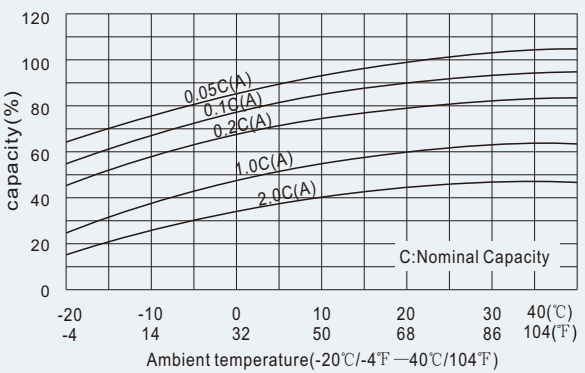
Charge characteristics (25℃,77°F)



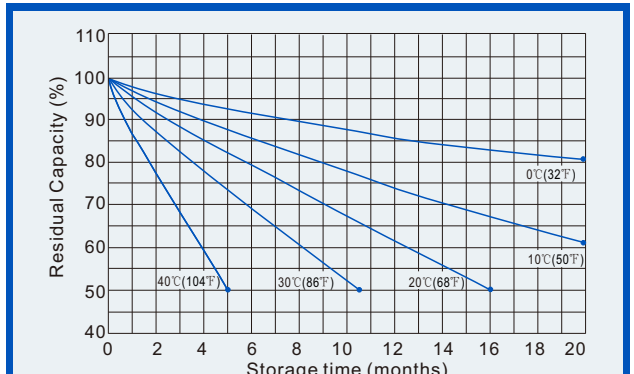
Life characteristics of Cyclic Use (25℃,77°F)



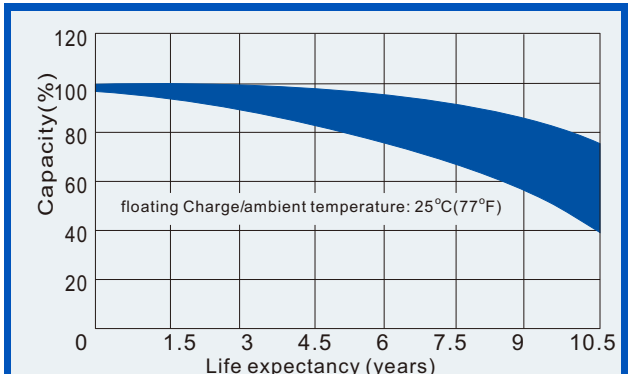
Effect of Temperature on capacity



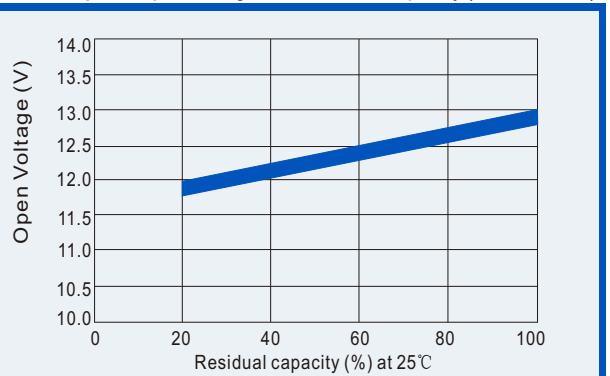
Self-discharge characteristics



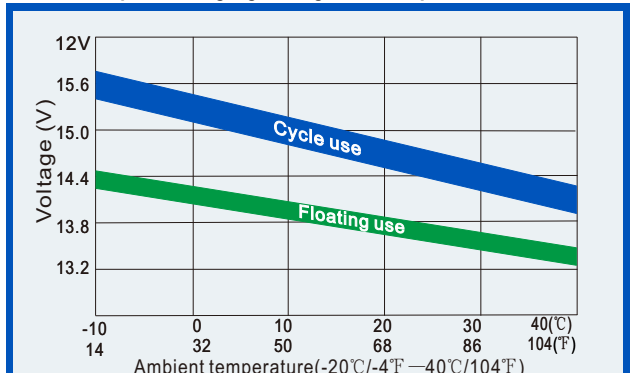
Life Characteristics of float service (25℃,77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life