

General features for MPE Series (Deep-cycle) battery

- * Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- * Computer designed lead, calcium tin alloy grid for high power density.
- * UL-recognized component.
- * Long service life, float or cyclic applications.
- * Maintenance-free operation.
- * Low self discharge.
- * Case and cover are available in both standard and flame retardant ABS (Standard :UL94V0).



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MPE12-160 (12V160Ah)

Specifications

Nominal Voltage		12V	
Rated capacity (10 hour rate)		160 Ah	
Dimensions (±2mm)	Total Height	T11	237mm (9.33inches)
		T60	221mm (8.70inches)
	Height	216 mm (8.50 inches)	
	Length	534 mm (21.1 inches)	
Width		209 mm (8.23 inches)	
Weight Approx (±3%)		49.0 Kg (107.8 lbs)	

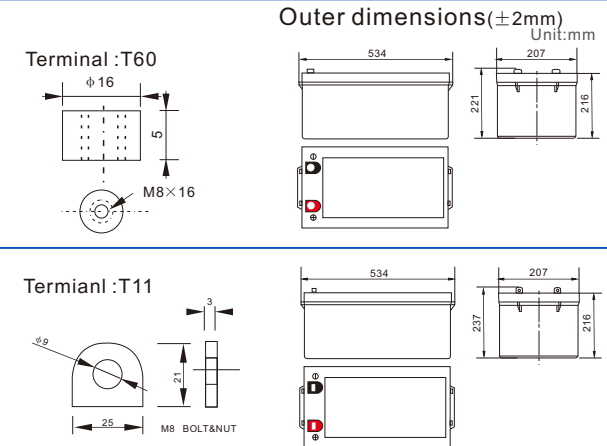
Battery picture and construction



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



Characteristics

Capacity 25°C(77°F)	10 hour rate(16.0 A, 10.8V) 5 hour rate(25.6A, 10.5V) 1 hour rate(96 A, 9.6V)	160 Ah 128Ah 96 Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 3.5mΩ
Capacity affected by Temperature (10hour rate)	40°C (104°F) 25°C (77°F) 0°C (32°F) -15°C (5°F)	102% 100% 85% 65%
Remaining capacity Self-Discharge At 25°C(77°F)	Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage	91% 82% 64%
Terminal type	T60 (Option T11)	
Max. Discharge current 25°C/(77°F)	1000A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°F)	
Operating Temperature Range	Discharge Charge Storage	-15°C ~50°C (5°F ~122°F) -10°C ~50°C (14°F ~122°F) -20°C ~50°C (-4°F ~122°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use	Initial Charging Current less than 40 A Voltage 14.5-15.0V Temperature compensation:-30mV/°C
	Standby use	Voltage 13.5-13.8V Temperature compensation:-18mV/°C

Constant current discharge (25°C , 77 °F)

Constant power discharge (25°C , 77 °F)

Unit:A

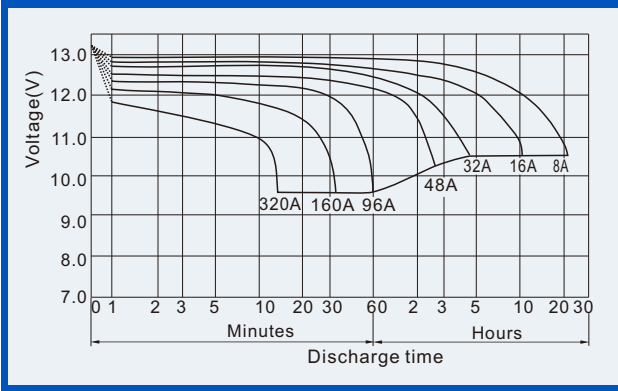
Unit:watts

Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)													
Time		5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	512	338	272	182.4	96.0	56.0	41.1	32.0	26.4	18.72	16.80	9.07
	W	5289	3606	2918	1961	1037	615	458	360	300	215	194	105.5
10.20V	A	496	305	256	174.4	90.2	53.4	40.0	31.2	25.9	18.24	16.48	8.80
	W	5301	3402	2868	1958	1021	616	463	363	302	213	194	103.2
10.50V	A	480	272	224	163.2	87.4	52.2	39.0	30.7	25.6	18.08	16.16	8.80
	W	5243	3100	2558	1878	1012	605	455	359	300	213	191	104.0
10.80V	A	463	257	208	150.4	84.5	50.9	38.1	30.2	25.0	17.60	16.00	8.64
	W	5192	2961	2400	1743	983	596	449	357	295	209	190	102.9
11.10V	A	447	241	192	134.4	81.6	49.6	36.8	29.4	24.3	17.12	15.20	8.16
	W	5071	2787	2239	1572	960	586	437	351	290	205	183.5	98.9

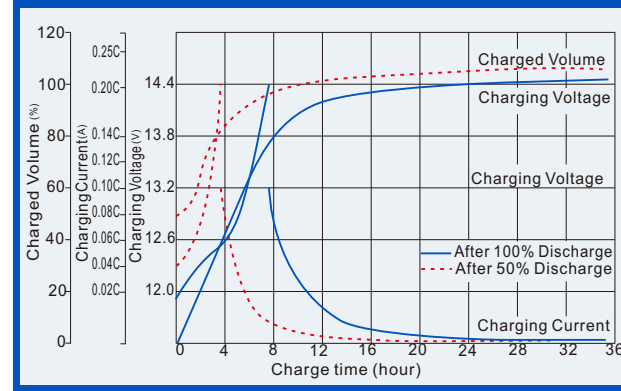
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

Deep Cycle Battery (VRLA Battery, AGM technology) Maintenance-free Sealed Lead Acid Rechargeable Battery

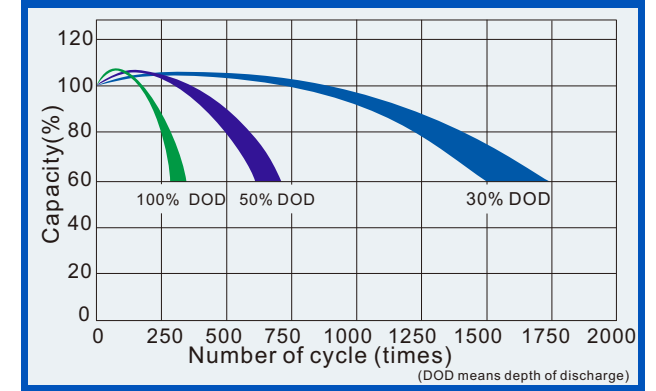
Discharge characteristics (25°C, 77°F)



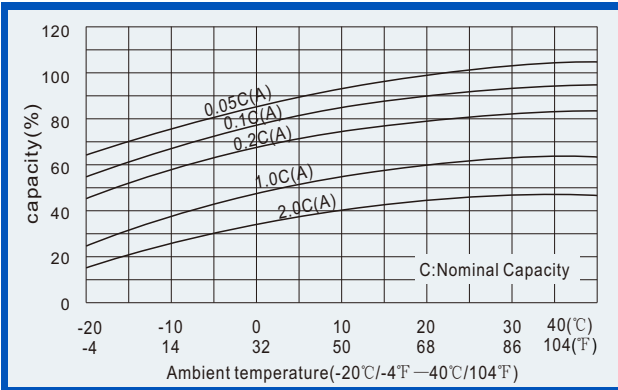
Charge characteristics (25°C, 77°F)



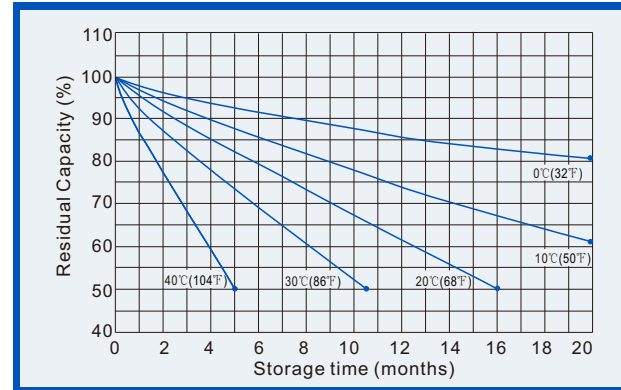
Life characteristics of Cyclic Use (25°C, 77°F)



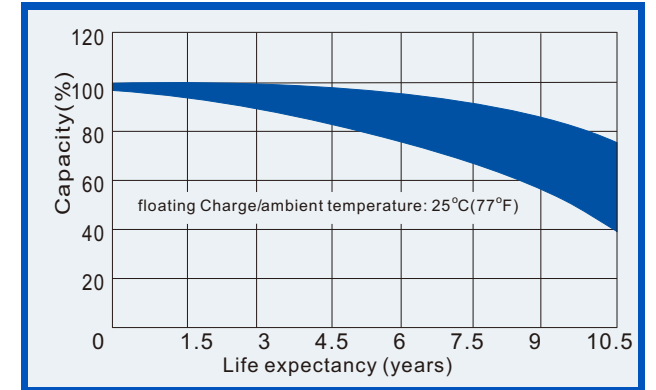
Effect of Temperature on capacity



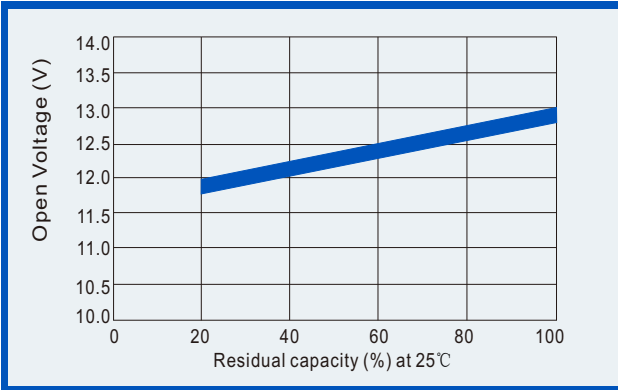
Self-discharge characteristics



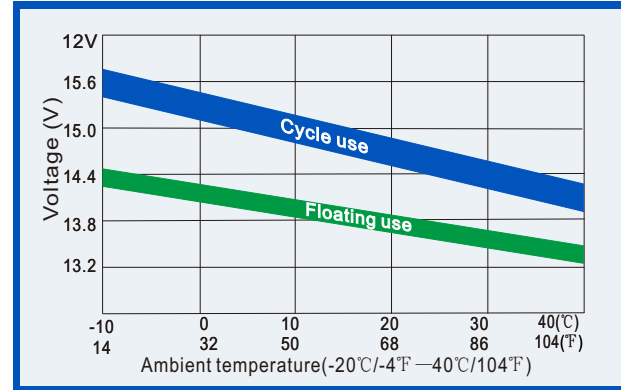
Life Characteristics of standby use (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

