

General Series Battery

FM series batteries are Maple Armor brand universal lead-acid batteries. Using high-quality lead calcium multi-element alloy plates, with high rate discharge capacity; High performance cast welded grid, with conductivity 30% higher than ordinary batteries; Internally, it adopts integrated casting and welding, reducing internal resistance by 20% and better adapting to high current discharge; Unique AGM technology enables higher energy density and stronger charging acceptance of batteries; Imported ABS raw materials and self-made shell, using self-developed automatic sealing technology, make the battery a complete whole, greatly improving sealing performance; Copper terminals (plug-in/vertical/downward rotation) not only meet the needs of high current charging and discharging, but also have flexible installation and more convenient maintenance. This series of batteries is manufactured using internationally advanced automated production lines, with high stability and consistency, and a longer service life. Design lifespan up to 10 years (25 °C)

Application

- * Emergency Power System
- * Communication equipment
- * Telecommunication systems
- * Uninterruptible power supplies
- * Electric toy car and wheelchairs, etc.
- * Power tools
- * Alarm system
- * Marine equipment
- * Medical equipment
- * Fire and Security System

General Features

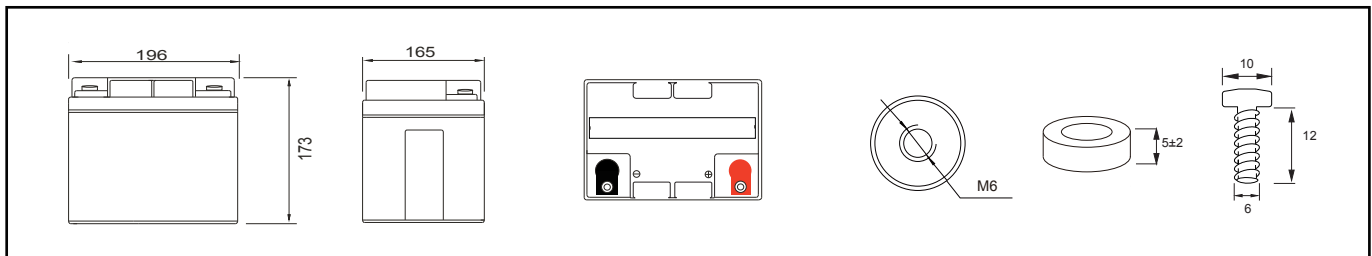
- * Heavy Duty Grid
- * Mechanized assembly
- * Non-spillable construction
- * High Reliability and Stability
- * Sealed and Maintenance-free
- * Long Life and low self-discharge design

Construction

- * Positive Lead dioxide
- * Electrolyte Sulfuric acid
- * Separator Fiber glass
- * Negative Lead
- * Safety Valve EPDR
- * Terminal Copper
- * Container ABS(UL94-HB) / Flame Retardant ABS (UL94-V0)


Specification

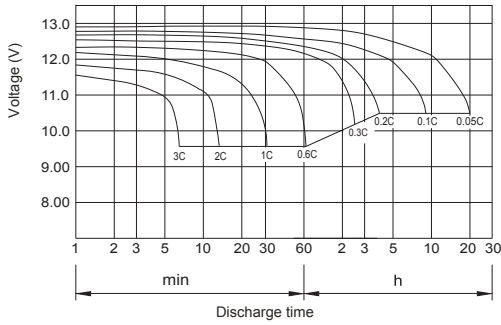
Battery Model	Nominal Voltage		12V	
	Rated capacity (20 Hour rate)		42Ah	
	Cells Per battery		6	
Dimension	Length	Width	Height	Total Height
	196mm (7.71 inches)	165mm (6.49 inches)	173mm (6.81 inches)	173mm (6.81 inches)
Approx Weight	12.20kg(26.89lbs) ± 3%			
Capacity @ 25°C (77°F)	20 hour rate(2.1A,10.5V)	5 hour rate(7.1A,10.5V)	3 hour rate(10.3A,10.8V)	1 hour rate(24A,9.6V)
	42Ah	35.5Ah	30.9Ah	24Ah
Max.discharge current	420A (5 Sec.)			
Internal Resistance	Full charged at 25°C (77°F): Approx 7.7mΩ			
Capacity affected by Temp.(10 HR)	40°C (104°F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Self Discharge @25°C (77°F)	After 3 months storage		After 6 months storage	After 12 months storage
	91%		82%	64%
Charge method @25°C (77°F)	Cycle Use		Float Use	
	14.40-15.00V (Initial charging current less than 12.6A)		13.50-13.80V	

Outer dimension (mm)

Terminal Type (mm)
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C (77°F)

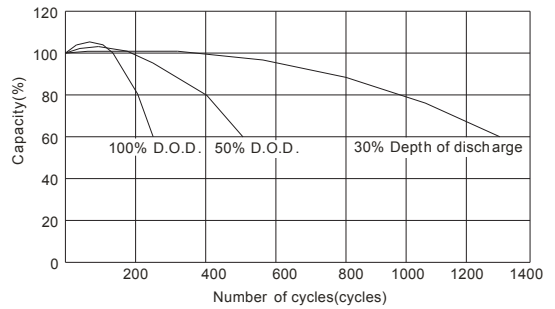
F.V/time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	128.200	96.644	73.100	47.500	24.000	17.565	14.807	10.548	7.198	5.097	4.151	2.308
	237.111	184.490	141.083	94.620	47.880	35.072	29.626	21.104	14.402	10.198	8.305	4.617
1.67V	113.813	90.188	69.303	46.485	23.826	17.391	14.733	10.492	7.158	5.054	4.086	2.192
	210.470	172.149	133.858	92.645	47.536	34.734	29.504	21.031	14.349	10.133	8.192	4.396
1.70V	107.739	86.961	67.594	46.079	23.652	17.374	14.696	10.466	7.157	5.003	4.034	2.134
	199.280	166.095	130.659	91.838	47.246	34.713	29.442	20.984	14.349	10.036	8.093	4.281
1.75V	97.509	81.834	64.746	45.267	23.304	17.148	14.604	10.400	7.119	4.989	4.200	2.100
	180.365	156.337	125.283	90.286	46.667	34.296	29.252	20.862	14.280	10.016	8.030	4.216
1.80V	87.118	76.328	62.088	44.252	23.130	17.026	14.512	10.345	7.099	4.946	3.935	2.031
	161.182	145.872	120.326	88.301	46.377	34.137	29.073	20.762	14.248	9.937	7.906	4.080
1.85V	76.728	70.822	58.860	43.034	22.783	16.835	14.383	10.252	7.059	4.882	3.871	1.962
	142.000	135.408	114.188	85.933	45.747	33.838	28.827	20.597	14.182	9.817	7.785	3.945

Note: The above data are average values. (Edition 2024-05)

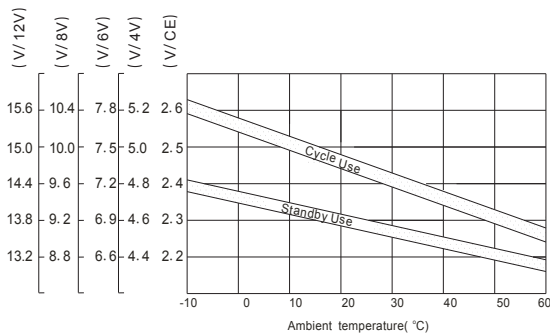
Discharge characteristic Curve



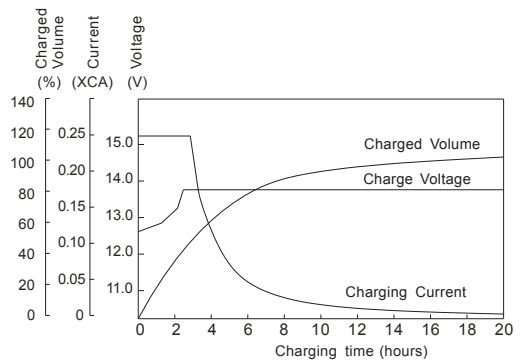
Cycle service life in relation to depth of discharge



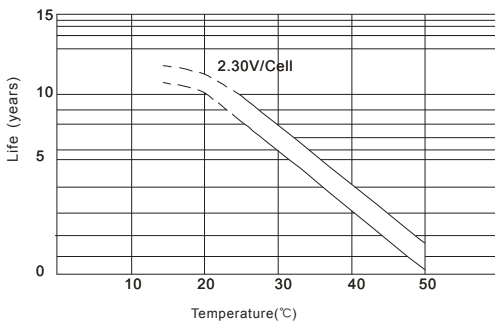
Relationship between charging voltage and temperature



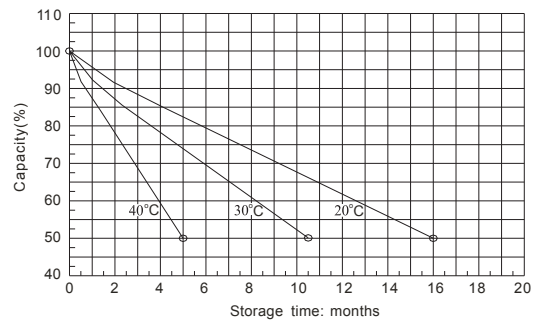
Constant voltage charging characteristic (0.25CA, at 25°C)



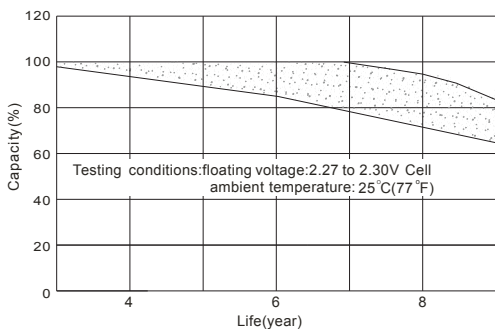
Temperature effects on float life



Self-discharge characteristic



Life characteristics of standby use



Charge characteristic Curve for standby use

