



MRV 31

Marine & RV Dual Purpose AGM Deep Cycle

NEWMAX Marine AGM batteries are industrial class quality and may also be used for applications requiring deep cycle capability such as SOLAR, UPS, daily applications and more.

THE newmax® AGM DIFFERENCE

Lasting Power	• 3x longer cycle life compared to conventional MF type batteries. • 2x longer battery life compared to EFB type batteries.
Maximum Durability and Stability	• vibration rating Provides superb resistance to wave pounding • Excellent active material protection against road corrugation.
Faster Recharge	• Recharges faster with ActiveCarbon™ Technology
Maintenance Free	• Non-spillable, AGM provides protection against leakage. • Environmentally Friendly, Recyclable

General Feature

❖ Plate	Paste type
❖ Battery type	Sealed and Maintenance free / Non-spillable construction design
❖ Case/cover mat	High-stiffness engineering PP plastic (Heat Deflection Temp. 140°C) RoHS Compliant EU Directive 2002/95/EC
❖ Safety performance	Safety valve & flame arrestor installation for explosion proof.
❖ High quality, high reliability and low self discharge rate ❖ Exceptional deep discharge recovery performance	
❖ Flexibility design for multiple install positions (Position Free)	
❖ Designed in accordance with and published in compliance with applicable IEC and BS EN, SAE.	
● IEC 60896-21/22 Stationary lead-acid batteries ● BS EN 50342 Lead acid starter batteries ● BCIS-06 Combined with BCIS-07 & BCIS-08 , SAE standards	

Technical Feature



Fahrenheit-Schutz™ Heat Protection Case

Specially Formulated heat and flame resistant PP case material is used to effectively block ambient heat thus preventing heat related malfunctions such as thermal runaway. This proprietary high rigidity case material has heat deflection rating of 140°C.



MaxPress™ Grid Technology

Proprietary grid production technology which increases the density of the plate grids to resist corrosion and maximize battery life, even under extreme operating conditions.



Completely Redesigned Valve System

Patent pending specially redesigned individualized valve system prevents evaporation and dry-out of electrolyte more effectively for prolonged battery life.



Advanced Absorbent Glass Mat (AGM) design

Newmax batteries hold electrolyte in place using absorbent glass mat (AGM) separator components to prevent leakage and to help recombination of gas.



Active Carbon™

Paste technology which helps to strengthen and enhance charge pathways, increasing the charge acceptance and overall durability by adding our proprietary Active carbon additives

Operating temperature range

Discharge	Charge	Storage
-30°C~50°C	-10°C~50°C	-20°C~60°C

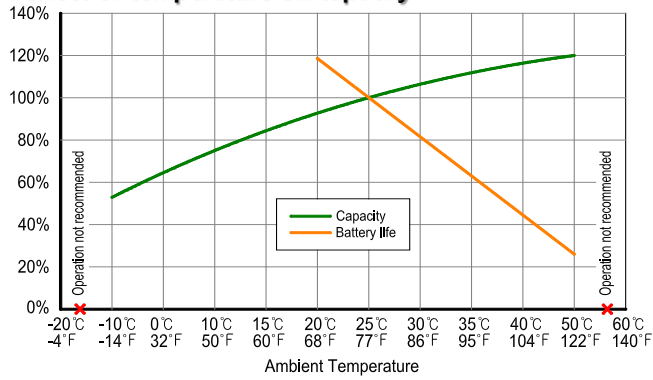
Battery model

MRV 31 (12V100AH / 20 HOUR RATE)

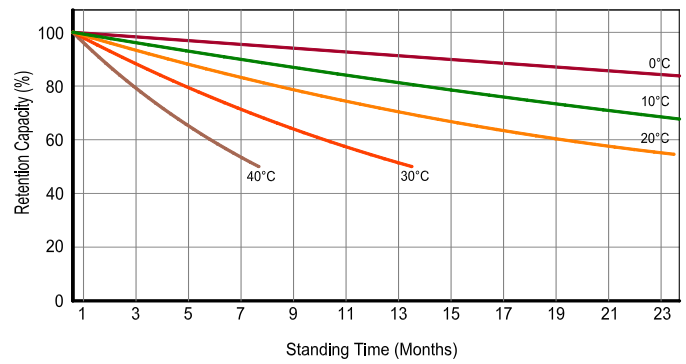
Capacity (@25°C)	C ₂₀ (1.75VPC)	Reserve capacity (minutes)	Cranking Ampere (@0°C)	Cold Cranking Ampere(@-18°C)
	100Ah	205	830	730
Dimensions (mm/inch), ±1.5mm	Length	Width	Height	Total Height
	332/13.07	170/6.69	215/8.46	235/9.25
Weight (kg/lbs)	27.5g(60.63 lbs) ± 5%			
Internal resistance (mΩ)	4.41mΩ (25°C, 77°F), Full charged			
Capacity affected by Temperature	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self discharge (@25°C, 77°F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	2,000A			

Note, Cranking amperes data is provided as a reference only. Specific application sizing and life factors must be considered when using deep cycle product in a starting application.

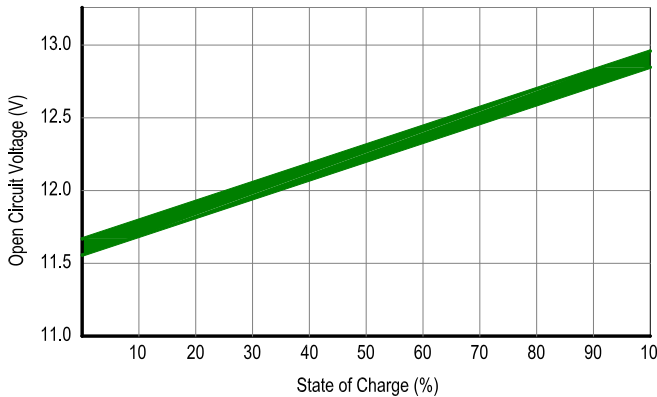
Effect of temperature on capacity



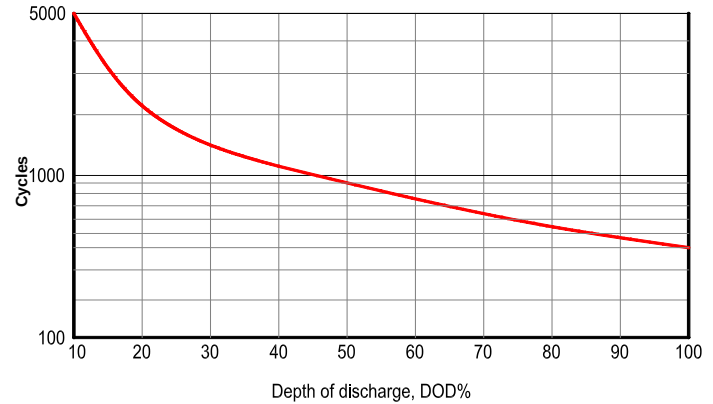
Self discharge



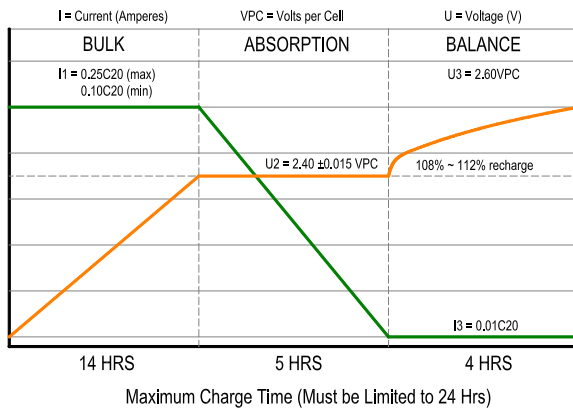
OCV in relation to the SOC (@25°C)



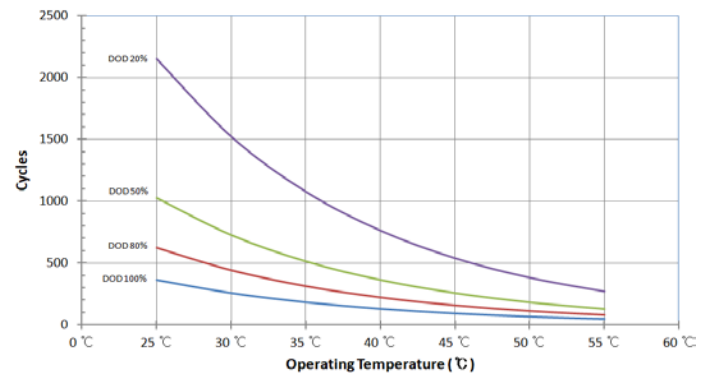
Cycle life vs DOD % (@25°C)



Charging profile (@25°C)



Relationship between cycle life & Temperature



Mid_CCA value vs ambient temperature

