



12V 100AH DEEP CYCLE AGM BATTERY W/ BATTERY BOX



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The Renogy 12V Deep Cycle AGM Battery has been widely applied in different scenarios due to its outstanding performance. Possessing the features of maintenance free and leak-proof, it is the ideal candidate for standby use applications including security systems and emergency lighting systems. It can also easily handle cyclic use applications, such as RVs and boats, thanks to its high discharge rate and wide operation temperature range. Besides, its high power-to-weight ratio makes it suitable for solar and wind energy storage applications. With the finest materials, the state-of-the-art production techniques, and the strictest quality control procedures, Renogy AGM batteries aim to provide the most reliable, convenient, and economic rechargeable battery solution.

To limit the battery movement and prevent against accidental shortening of battery terminals, a Heavy-duty Battery Box is included. Built for rugged environments, the battery box is made of polypropylene with high impact resistance. The vent holes on the top of the battery box allow for adequate ventilation. Coming with a tie down strap and brackets, the battery box can be easily installed in a car, boat, camper, motorhome, trailer, or caravan.

KEY FEATURES

Maintenance-Free

Manufactured with thick absorbent glass mat (AGM) separators and advanced valve regulated technology, Renogy Deep Cycle AGM Batteries save you from acid leakage and frequent maintenance

Excellent Discharge Performance

Proprietary quinary alloy plates and specially treated plate grids enable low internal resistance and high discharge currents of up to 10 times the battery rated capacity

Long Shelf Life

Made of high purity materials, Renogy Deep Cycle AGM Batteries reduce the monthly self-discharge rate below 3% at 77°F (25°C), which is five times lower than their flooded counterparts

Wide Operation Temperature Range

Improved electrolyte formula ensures stable battery capacity and outstanding discharge performance at low temperatures below 32°F (0°C)

Rugged Battery Box

Made with high impact-resistant material to withstand harsh environments, the Heavy-Duty Battery Box provides comprehensive protections for the Renogy Deep Cycle AGM Battery, including reinforced handles to prevent cracking during battery relocation and vent holes for adequate battery ventilation.



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BATTERY BOX

Internal Dimension	13.8 x 7.1 x 10.4 inch / 350 x 180 x 265 mm
External Dimension	16.7 x 9.7 x 10.6 inch / 425 x 247 x 270 mm
Weight	2.4 lb. / 1.1 kg
Material	PP

AGM BATTERY

Electric Characteristics	
Nominal Voltage	12V
Number of Cells	6
Rated Capacity (77°F/25°C)	100Ah (10 Hour Rate to 10.5V)
Internal Resistance	5 mΩ
Self-discharge Rate (77°F/25°C)	<3%/month
Float Charge Voltage (77°F/25°C)	13.5V~13.8V
Cycle Use Voltage (77°F/25°C)	14.4V~14.8V
Equalization Voltage (77°F/25°C)	14.4V~14.8V
Max Charge Current	30A
Max Discharge Current	1100A (5 Seconds)

Temperature Parameters	
Normal Operating Temperature	77°F±5.4°F (25°C±3°C)
Operating Temperature Range	Discharge: 5°F~122°F (-15°C~50°C)
	Charge: 5°F~104°F (-15°C~40°C)
Storage Temperature Range	5°F~104°F (-15°C~40°C)

Mechanical Properties	
Terminal Bolt Size	M8 x 1.25 x 20 mm
Recommended Terminal Torque	109.8 inch-lb / 12.4 N·m
Container Material	ABS
Weight	63.9 lbs. (29kg)
Dimension (L x W x H)	13.1 x 6.9 x 8.6 inch (332 x 175 x 219 mm)



Constant Current Discharge Characteristics (77°F /25°C) Unit:A

F.V/Time	15min	30min	1hr	3hr	5hr	8hr	10hr	20hr
1.60V	165.5	100.00	58.70	26.76	17.90	11.78	9.81	5.15
1.67V	158.7	96.51	57.00	26.20	17.52	11.68	9.71	5.10
1.70V	155.9	91.23	55.10	25.83	17.33	11.59	9.62	5.05
1.75V	149.1	86.32	54.00	25.56	17.24	11.40	9.52	5.00
1.80V	142.4	79.62	50.20	25.09	17.05	10.93	9.33	4.90
1.85V	130.8	70.19	47.40	24.26	16.76	10.75	9.14	4.80

Constant Power Discharge Characteristics (77°F /25°C) Unit: WPC

F.V/Time	15min	30min	1hr	3hr	5hr	8hr	10hr	20hr
1.60V	304.0	179.06	107.70	51.94	35.52	23.55	19.62	10.30
1.67V	294.4	175.00	105.80	51.11	34.86	23.36	19.43	10.20
1.70V	290.6	167.64	104.00	50.56	34.57	23.18	19.24	10.10
1.75V	279.0	160.38	102.80	50.28	34.38	22.80	19.14	10.05
1.80V	266.5	151.70	97.00	49.81	34.19	22.06	18.86	9.90
1.85V	247.3	135.75	93.20	48.80	34.00	21.78	18.57	9.75

Charging Procedures

Application	Charge Voltage (V/Cell)			Max Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25°C	2.450	2.40~2.50	0.3C
Standby	25°C	2.275	2.25~2.30	

Effect of Temperature on Capacity

Temperature	Dependency of Capacity (20hr)
40°C	102%
20°C	100%
0°C	85%
-15°C	65%

Discharge Current vs. Discharge Voltage

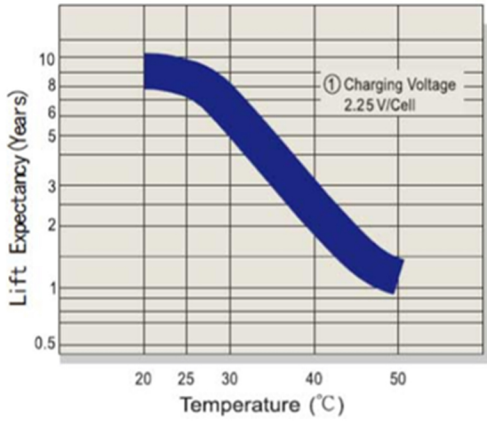
Final Discharge Voltage (V/Cell)	1.75	1.70	1.65	1.60
Discharge Current (A)	<0.2C	0.2C~0.5C	0.5C~1.0C	>1.0C

Self-discharge Characteristics

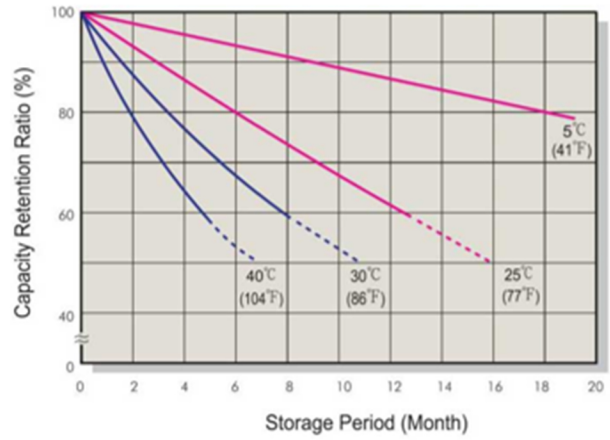
Storage Time	Preservation Rate
3 Months	91%
6 Months	82%
12 Months	64%



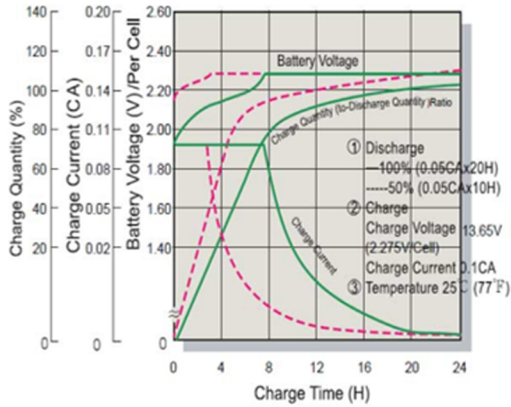
Float Service Life



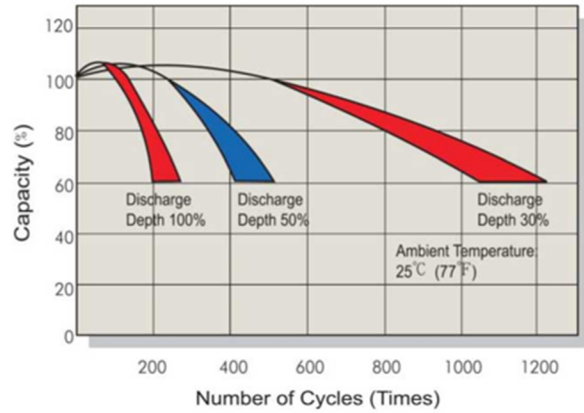
Capacity Retention Characteristics



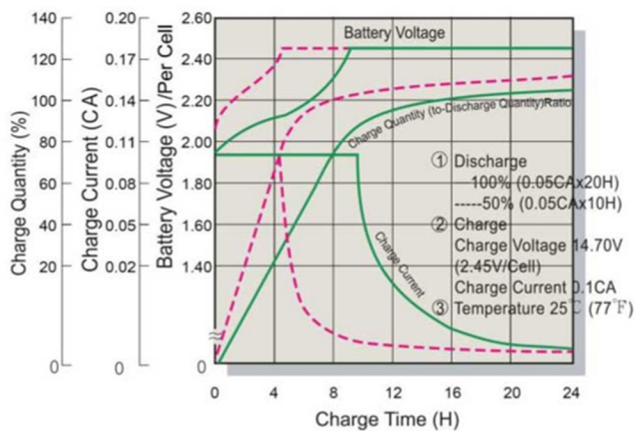
Battery Voltage and Charge Time for Standby Use



Cycle Service Life



Battery Voltage and Charge Time for Cycle Use



Terminal Voltage and Discharge Time

