



# DEEP CYCLE AGM BATTERY 12 VOLT 100AH



## RENOGY DEEP CYCLE AGM BATTERY 12 VOLT 100AH

Due to its outstanding performance, the Renogy 12V Deep Cycle AGM Battery is a favorite in a wide variety of applications. Maintenance-free and leak-proof, the battery is ideal for standby projects that require minimal monitoring. Beyond applications such as uninterruptible power supplies (UPS) and telecommunication systems, the battery can also handle cyclic uses, such as RVs, boats, medical equipment, and lawnmowers, thanks to its high discharge rate and wide operation temperature range. Its high power-to-weight ratio makes it suitable for solar and wind energy storage applications. With the finest materials, state-of-the-art production techniques, and the strictest quality control measures, Renogy AGM batteries aim to provide the most reliable, convenient, and economic rechargeable battery solution.

### 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 5 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).

## 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 Temperature Compensation: -18mV/°C
Cycle Use Voltage (77°F/25°C)	14.4V~14.8V Temperature Compensation: -24mV/°C
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±9°F (25°C±5°C)
Operating Temperature Range	Discharge: -4°F~140°F (-20°C~60°C) Charge: 32°F~122°F (0°C~50°C)
Storage Temperature Range	-4°F~140°F (-20°C~60°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 lb. / 29 kg
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	

## 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

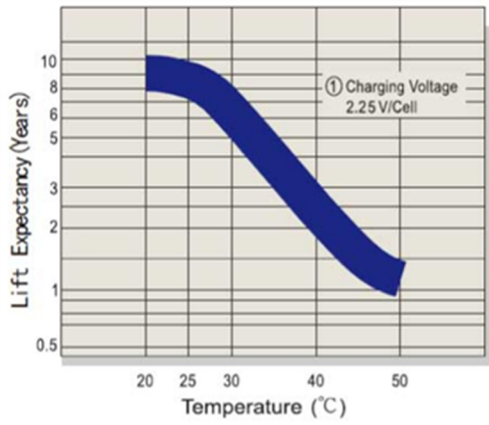
## EFFECT OF TEMPERATURE ON CAPACITY

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

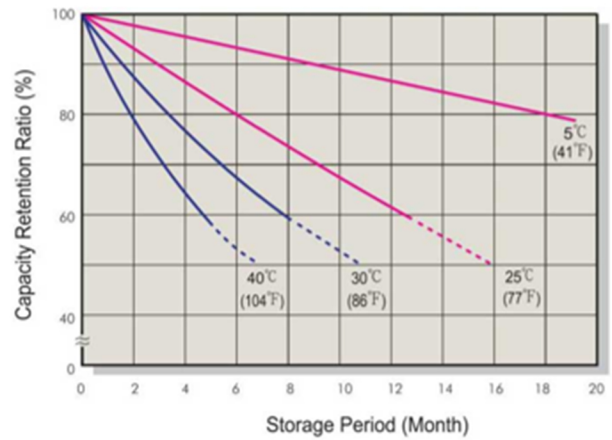
## SELF-DISCHARGE CHARACTERISTICS

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

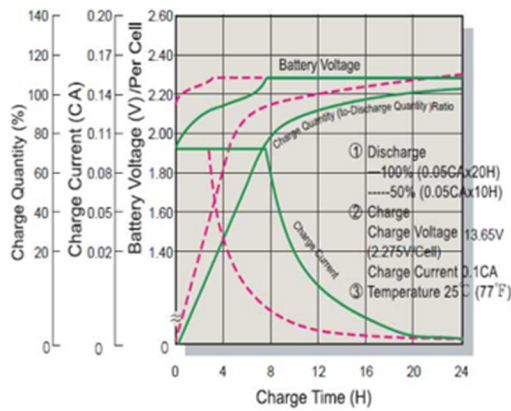
### Float Service Life



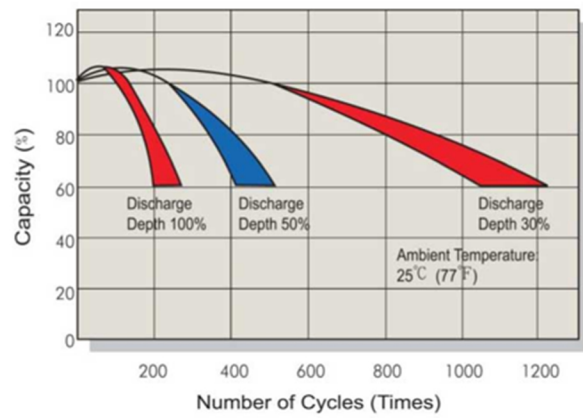
### Capacity Retention Characteristics



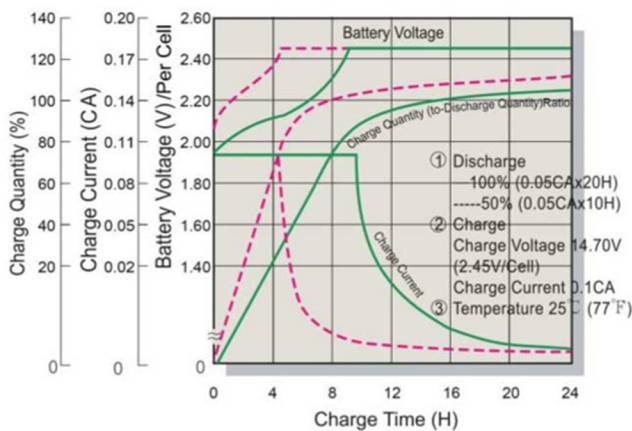
### Battery Voltage and Charge Time for Standby Use



### Cycle Service Life



### Battery Voltage and Charge Time for Cycle Use



### Terminal Voltage and Discharge Time

