



12V 100AH DEEP CYCLE HYBRID GEL BATTERY W/ BATTERY BOX



RENOGY 12V 100AH DEEP CYCLE HYBRID GEL BATTERY W/ BATTERY BOX

The Renogy 12V Deep Cycle Hybrid GEL battery is a perfect option for both standby and cyclic use applications under extreme environments owing to its advantages over flooded batteries. Featuring the maintenance free and leak-proof design, it can reliably supply emergency power to security systems and emergency lighting systems, helping prevent any damage that may be caused by sudden loss of mains power. It is also suitable for RVs and boats, where repeated charge and discharge are highly required, given its long service life and outstanding cycle capacity. Moreover, with its high power-to-weight ratio, it can provide maximum storage for any solar or wind system. With the finest materials, the state-of-the-art production techniques, and the strictest quality control procedures, Renogy Hybrid GEL 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 gel suspended electrolyte and advanced valve regulated technology, Renogy Deep Cycle Hybrid GEL Batteries save you from acid leakage and frequent maintenance

Extended Service Life

Corrosion-resistant grids enable a design life of up to 12 years in standby applications and more than 750 charge/discharge cycles at 50% DOD in cyclic applications

Long Shelf Life

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

Deep Discharge Recovery

Proprietary plate composition and patented gel electrolyte ensures excellent recovery capability after excessive deep discharge

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 Battery, including reinforced handles to prevent cracking during battery relocation and vent holes for adequate battery ventilation

BATTERY BOX

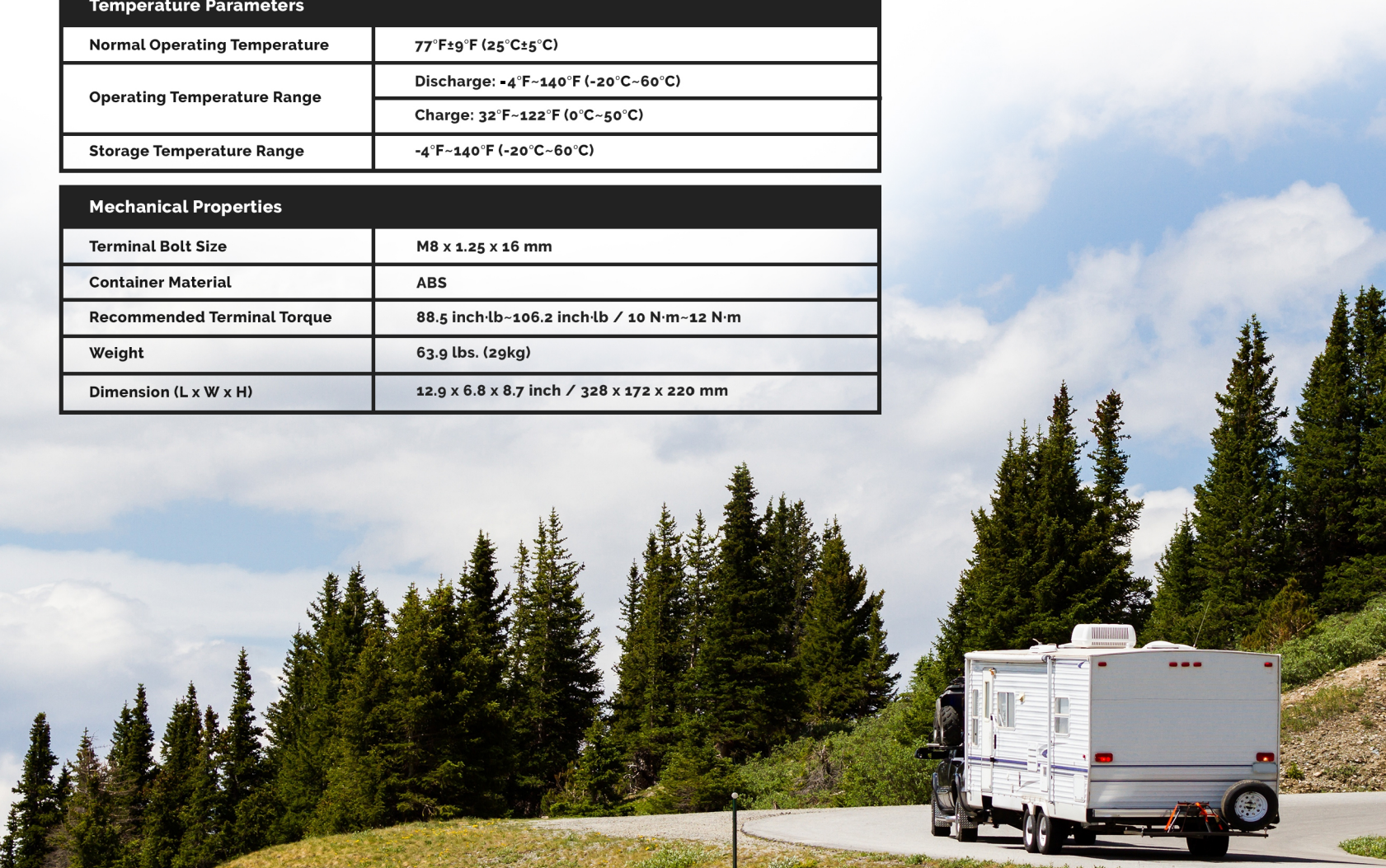
Internal Dimension	13.8 x 7.1 x 10.4 inch / 350 x 180 x 265 mm
External Dimension	16.7 x 9.7 x 10.6 inch / 425 x 247 x 270 mm
Weight	2.4 lb. / 1.1 kg
Material	PP

GEL BATTERY

Electric Characteristics	
Nominal Voltage	12V
Number of Cells	6
Capacity (77°F/25°C)	100Ah (20 Hour Rate to 10.5V)
Internal Resistance	6 mΩ
Self-discharge Rate (77°F/25°C)	<3%/month
Float Charge Voltage (77°F/25°C)	13.6V~13.8V
Cycle Use Voltage (77°F/25°C)	14.2V~14.8V
Equalization Voltage (77°F/25°C)	14.2V
Max Charge Current	30A
Max Discharge Current	1000A (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 16 mm
Container Material	ABS
Recommended Terminal Torque	88.5 inch-lb~106.2 inch-lb / 10 N·m~12 N·m
Weight	63.9 lbs. (29kg)
Dimension (L x W x H)	12.9 x 6.8 x 8.7 inch / 328 x 172 x 220 mm



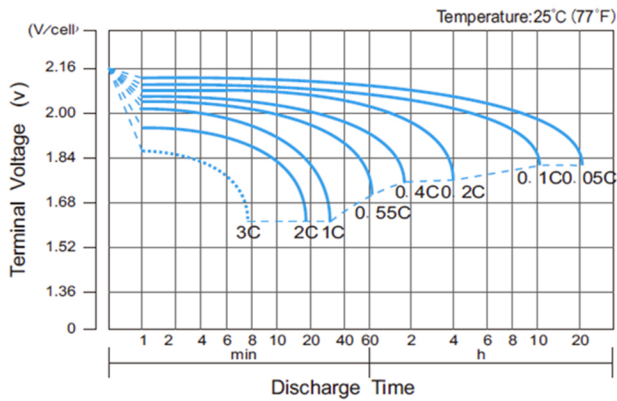
Constant Current Discharge Characteristics (77°F / 25°C) Unit:A

F.V/Time	1hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr	48hr	50hr	72hr	100hr	120hr
1.60V	59.3	35.5	26.5	20.9	17.6	12.0	10.2	5.20	2.36	2.24	1.61	1.19	1.01
1.65V	58.2	34.9	26.1	20.6	17.4	11.9	10.1	5.15	2.33	2.22	1.60	1.18	1.00
1.70V	56.7	34.1	25.5	20.3	17.1	11.7	9.96	5.09	2.30	2.19	1.58	1.16	0.99
1.75V	54.6	33.0	24.8	19.7	16.7	11.5	9.77	5.00	2.26	2.15	1.55	1.14	0.97
1.80V	51.9	31.5	23.8	19.0	16.2	11.1	9.50	4.88	2.20	2.09	1.50	1.11	0.94
1.85V	47.9	29.3	22.3	17.9	15.4	10.6	9.12	4.70	2.11	2.00	1.44	1.06	0.90

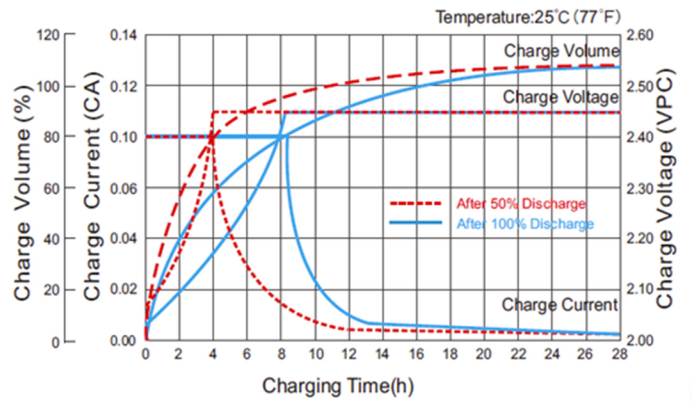
Constant Power Discharge Characteristics (77°F / 25°C) Unit:WPC

F.V/Time	1hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr	48hr	50hr	72hr	100hr	120hr
1.60V	116.7	70.8	53.2	42.3	35.8	24.7	21.1	10.8	4.88	4.64	3.34	2.46	2.09
1.65V	115.7	70.1	52.7	41.9	35.5	24.5	20.9	10.7	4.84	4.60	3.31	2.44	2.08
1.70V	113.1	68.7	51.7	41.2	35.0	24.2	20.7	10.6	4.78	4.54	3.27	2.41	2.05
1.75V	109.6	66.8	50.5	40.3	34.3	23.7	20.3	10.4	4.69	4.46	3.21	2.36	2.01
1.80V	104.5	64.1	48.6	39.0	33.3	23.1	19.8	10.2	4.57	4.34	3.13	2.30	1.96
1.85V	97.2	60.0	45.8	36.9	31.7	22.1	19.0	9.8	4.39	4.17	3.01	2.21	1.88

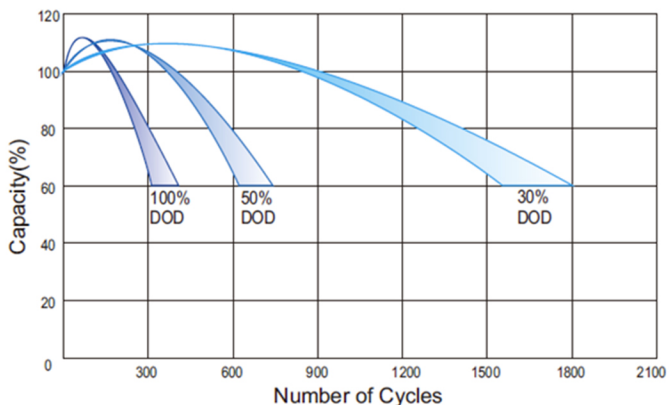
Discharge Characteristics Curve



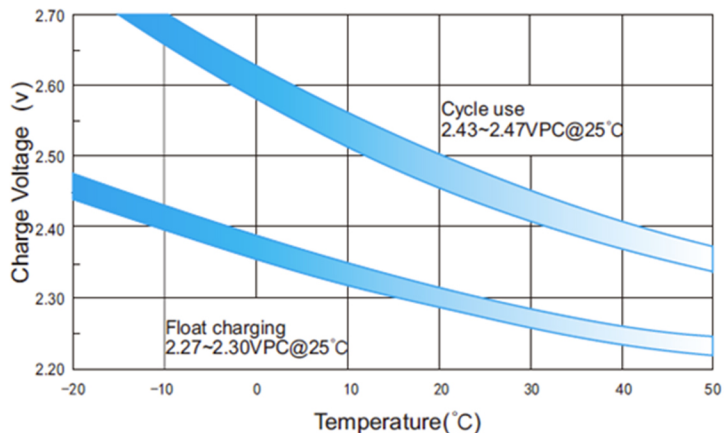
Charge Characteristics Curve for Cycle Use



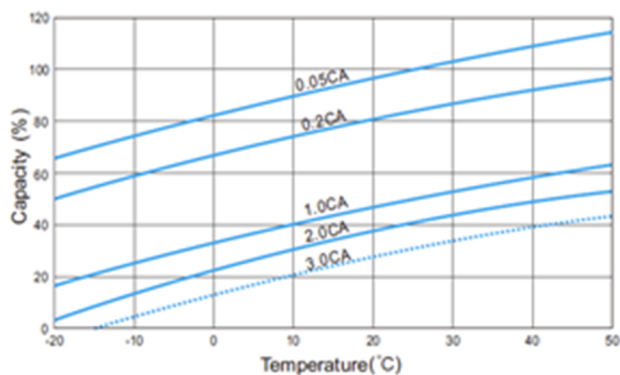
Relationship between Cycle Life and DOD



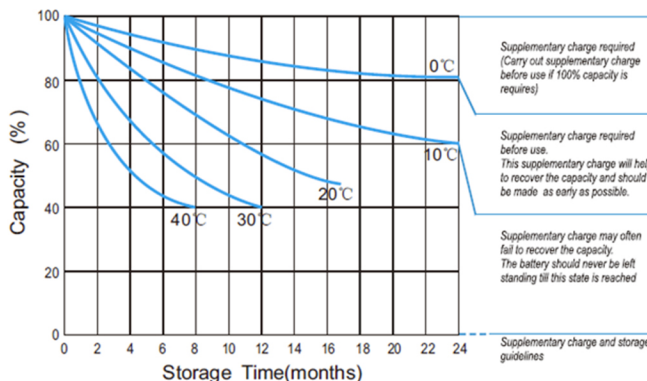
Relationship between Charge Voltage and Temperature



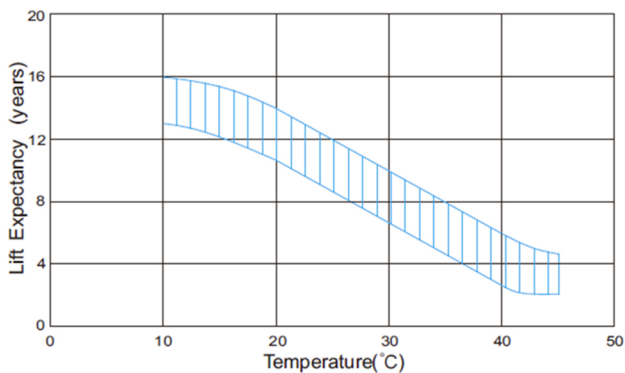
Temperature Effects on Capacity



Storage Characteristics



Effect of Temperature on Long Term Life



Relationship between OCV and State of Charge

