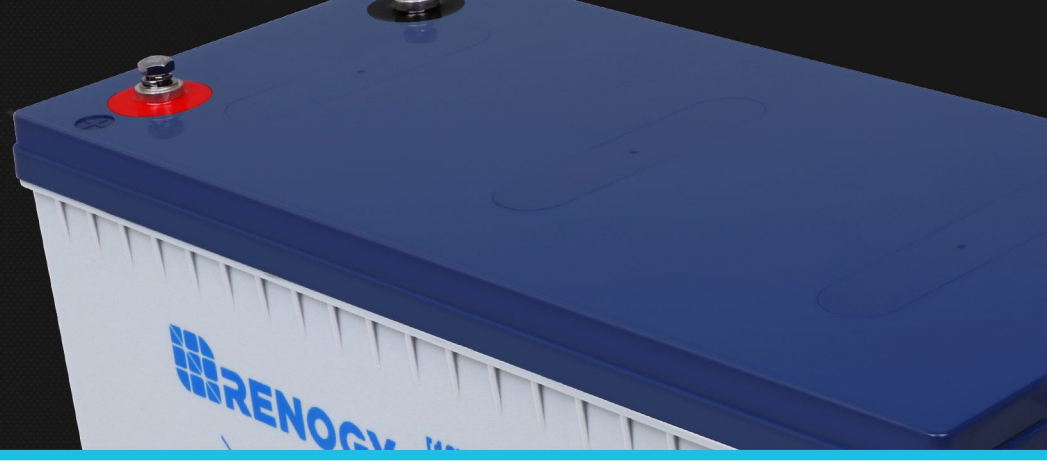
RENOGY

DEEP CYCLE GEL BATTERY 12 VOLT 200AH



RENOGY **DEEP CYCLE GEL BATTERY 12 VOLT 200AH**

The Renogy 12V Deep Cycle Hybrid GEL Battery is ideal for both standby and cyclic applications in extreme environments. Maintenance-free and leak-proof, it can reliably supply emergency power to telecommunication systems, security systems, and emergency lighting systems, helping prevent any damage that may be caused by a sudden loss of primary electricity. It is also suitable for RVs, boats, medical equipment, and lawnmowers, where repeated charges and discharges 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, 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.

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.

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ELECTRIC CHARACTERISTICS

Nominal Voltage	12V
Number of Cells	6
Rated Capacity (77°F/25°C)	200Ah (20 Hour Rate to 10.8V)
Reference Capacity (77°F/25°C)	C3: 148.5Ah
	C5: 167.0Ah
	C10: 190.0Ah
	C20: 200Ah
Internal Resistance	4.2 mΩ
Self-discharge Rate (77°F/25°C)	＜3% / month
Float Charge Voltage (77°F/25°C)	13.6V~13.8V
	Temperature Compensation: -18mV/°C
Cycle Use Voltage (77°F/25°C)	14.2V~14.4V
	Temperature Compensation: -24mV/°C
Equalization Voltage (77°F/25°C)	14.2V
Max Charge Current	60A
Max Discharge Current	2000A (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
Recommended Terminal Torque	88.5 inch·lb~106.2 inch·lb / 10 N·m~12 N·m
Container Material	ABS
Weight	127.9 lb. / 58 kg
Dimension (L x W x H)	20.6 x 9.4 x 8.8 inch / 522 x 240 x 224 mm

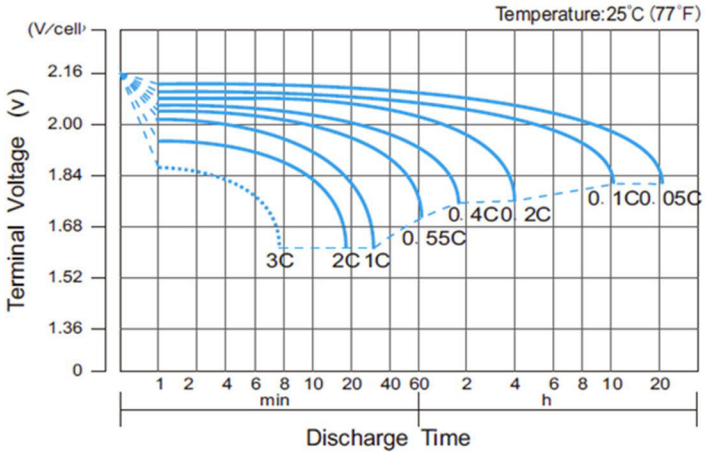
CONSTANT CURRENT DISCHARGE CHARACTERISTICS (77°F/25°C) UNIT: A

F.V/Time	1hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr	48hr	50hr	72hr	100hr	120hr
1.60V	118.6	71.0	52.9	41.8	35.3	24.1	20.4	10.4	4.72	4.48	3.23	2.38	2.02
1.65V	116.3	69.8	52.1	41.3	34.8	23.8	20.2	10.3	4.67	4.44	3.20	2.35	2.00
1.70V	113.3	68.2	51.0	40.5	34.2	23.4	19.9	10.2	4.61	4.38	3.15	2.32	1.97
1.75V	109.3	66.0	49.5	39.5	33.4	22.9	19.5	10.0	4.52	4.29	3.09	2.28	1.94
1.80V	103.7	63.0	47.5	38.0	32.3	22.3	19.0	9.75	4.40	4.18	3.01	2.21	1.88
1.85V	95.8	58.6	44.6	35.9	30.7	21.3	18.2	9.40	4.22	4.01	2.89	2.12	1.81

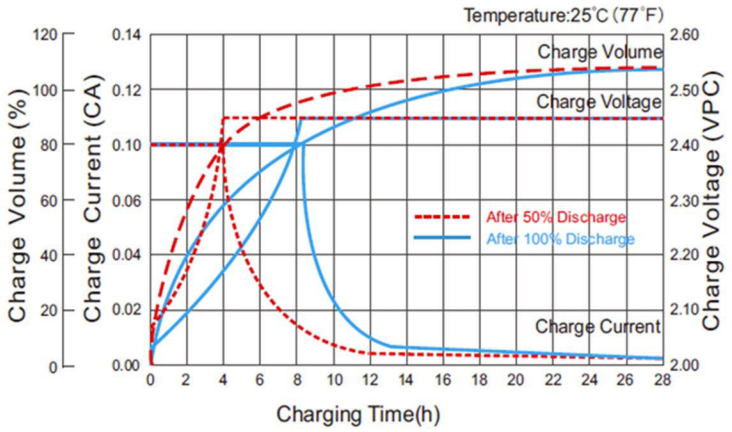
CONSTANT POWER DISCHARGE CHARACTERISTICS (77°F/25°C) UNIT: WPC

F.V/Time	1hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr	48hr	50hr	72hr	100hr	120hr
1.60V	233.3	141.6	106.4	84.6	71.6	49.5	42.2	21.5	9.76	9.27	6.68	4.92	4.18
1.65V	231.3	140.2	105.4	83.8	71.0	49.1	41.9	21.4	9.68	9.20	6.63	4.88	4.15
1.70V	226.2	137.4	103.5	82.5	70.0	48.4	41.3	21.1	9.56	9.08	6.54	4.81	4.10
1.75V	219.2	133.6	100.9	80.6	68.6	47.5	40.6	20.8	9.39	8.92	6.43	4.73	4.02
1.80V	209.1	128.1	97.1	77.9	66.5	46.2	39.5	20.3	9.14	8.69	6.26	4.61	3.92
1.85V	194.4	120.0	91.5	73.8	63.4	44.2	38.0	19.6	8.78	8.35	6.01	4.43	3.77

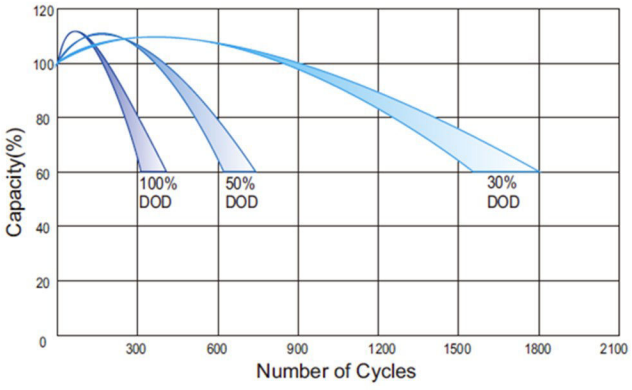
Discharge Characteristics Curve



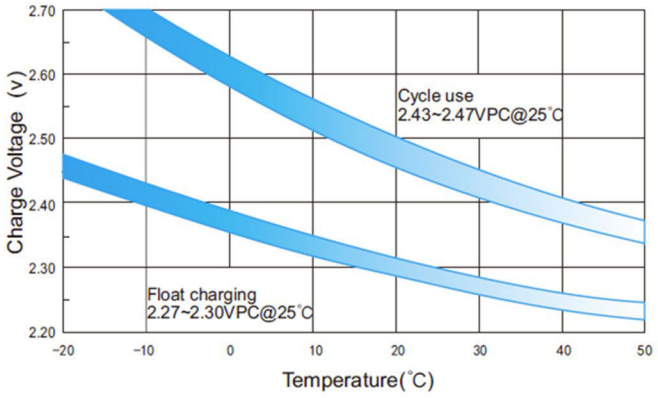
Charge Characteristics Curve for Cycle Use



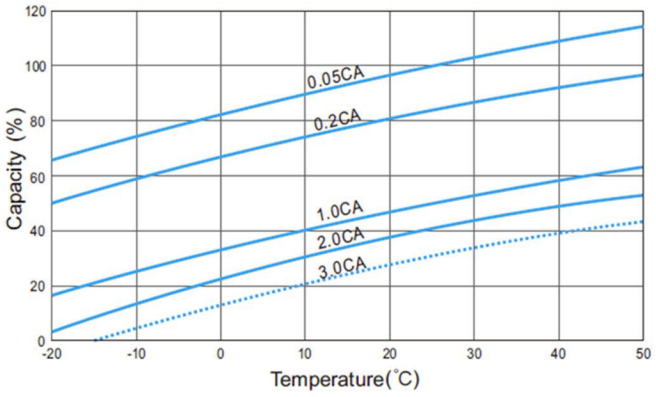
Relationship between Cycle Life and DOD



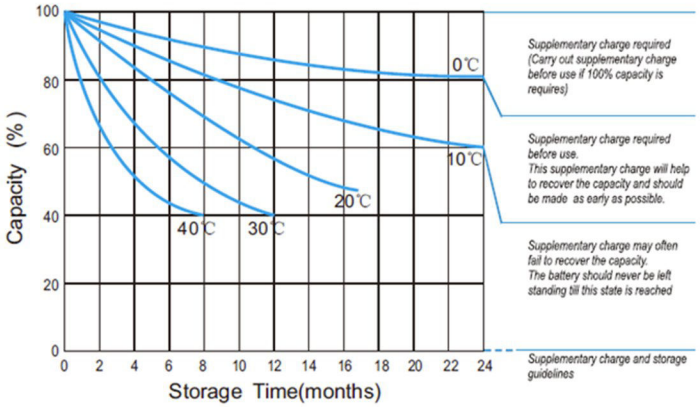
Relationship between Charge Voltage and Temperature



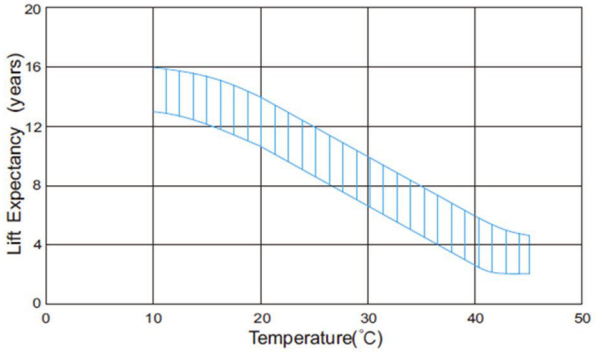
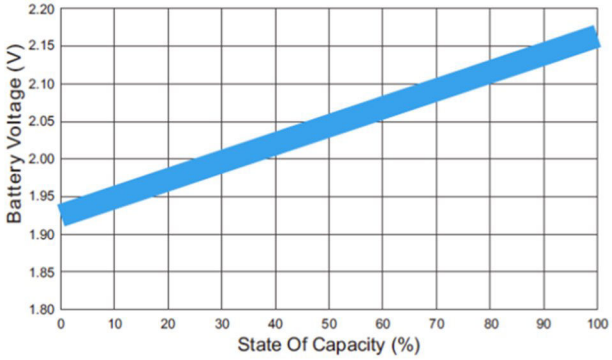
Temperature Effects on Capacity



Storage Characteristics



Effect of Temperature on Long Term Life



Relationship between OCV and State of Charge