



**Gel Battery
12V 200Ah**

VRLA technology

VRLA stands for Valve Regulated Lead Acid, which means that the batteries are sealed. Gas will escape through the safety valves only in case of overcharging or cell failure. VRLA batteries are maintenance free for life.

Sealed (VRLA) Gel Batteries

Here the electrolyte is immobilized as gel. Gel batteries in general have a longer service life and better cycle capacity than AGM batteries.

Low Self-Discharge

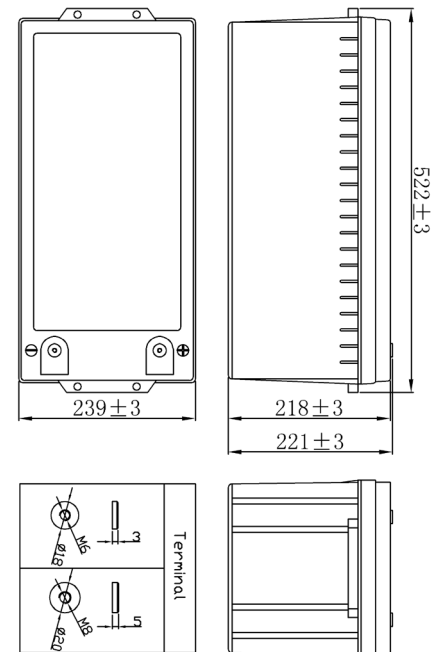
Because of the use of lead calcium grids and high purity materials, NCTS VRLA batteries can be stored during long periods of time without recharge. The rate of self-discharge is less than 2% per month at 20°C. The self-discharge doubles for every increase in temperature by 10°C. NCTS VRLA batteries can therefore be stored for up to a year without recharging, if kept under cool conditions.

Exceptional Deep Discharge Recovery

NCTS VRLA batteries have exceptional discharge recovery, even after deep or prolonged discharge. Nevertheless, repeatedly deep and prolonged discharge has a very negative effect on the service life of all lead acid batteries.

SPECIFICATIONS:

Nominal Voltage (V)	12V (6 cells in series)	
Rated Capacity	200.0Ah	(C ₁₀ , 1.8V/cell)
Dimensions(mm)	Length	522±3 mm
	Width	238±3 mm
	Height	218±3 mm
	Total Height	221±3 mm
Nominal Capacity @25°C (Ah)	20 Hour rate (10.90A to 10.8 volts)	218.0Ah
	10 Hour rate (20.40A to 10.8 volts)	204.0Ah
	5 Hour rate (35.00A to 10.8 volts)	175.0Ah
	1 Hour rate (126.6A to 10.5 volts)	126.6Ah
Approx. Weight	60.5 kg	
Terminal	T13	
Max. Discharge Current	1600A @25°C (5s)	
Internal Resistance	3.5mΩ @25°C (Full Charged Battery)	
Floating Design Life	12 years @25°C (80%DOD≥500 Cycles)	
Ambient Temperature	Charge : -20°C~50°C	
	Discharge : -40°C~60°C	
	Storage : -20°C~60°C	
Container Material	A.B.S, UL94-HB, UL94-V0, Optional	
Self Discharge	Deep cycle Gel batteries can be stored for more than 6 months at 25°C. Self-Discharge ratio less than 3% per month at 25°C. Please charge batteries before using.	



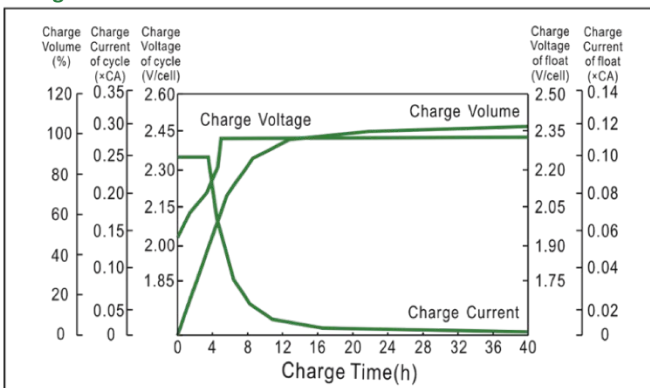
CONSTANT CURRENT DISCHARGE CHARACTERISTICS (A), (25°C)

F.V/Time	5min	10min	15min	30min	60min	2H	3H	5H	8H	10H	20H
1.60V/cell	680.0	453.0	362.8	225.0	130.0	77.70	55.20	36.96	24.84	21.20	11.60
1.70V/cell	610.0	417.0	345.0	219.0	128.2	76.70	54.20	36.08	24.44	20.90	11.30
1.75V/cell	550.0	385.0	329.0	213.0	126.6	75.70	53.60	35.54	24.20	20.70	11.10
1.80V/cell	490.0	351.0	309.0	204.8	124.0	74.66	53.0	35.00	23.84	20.40	10.90

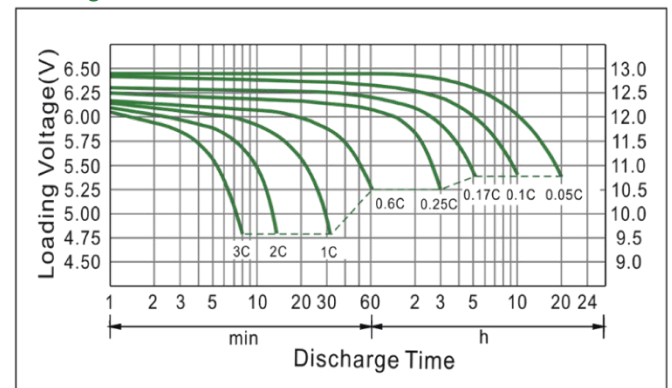
CONSTANT WATTAGE DISCHARGE CHARACTERISTICS (WATT), (25°C)

F.V/Time	5min	10min	15min	30min	60min	2H	3H	5H	8H	10H	20H
1.60V/cell	1173.0	807.9	659.1	420.0	249.2	151.5	109.5	73.49	49.43	42.22	23.18
1.70V/cell	1077.7	757.6	635.4	412.5	246.8	150.2	107.8	71.92	48.76	41.73	22.60
1.75V/cell	985.4	709.0	611.4	404.7	244.8	148.9	106.8	71.02	48.40	41.40	22.20
1.80V/cell	890.2	655.2	579.4	392.5	240.8	148.1	105.9	70.00	47.68	40.80	21.80

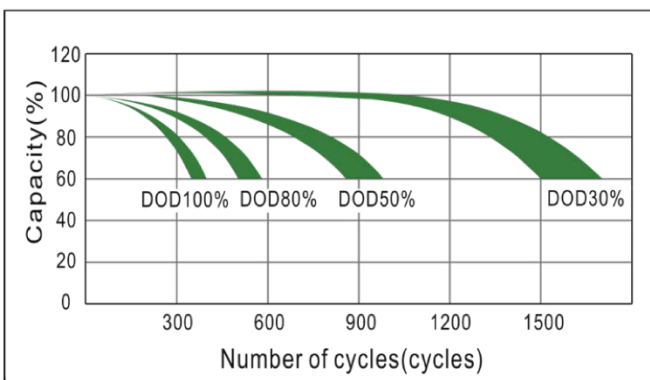
Charge Characteristics



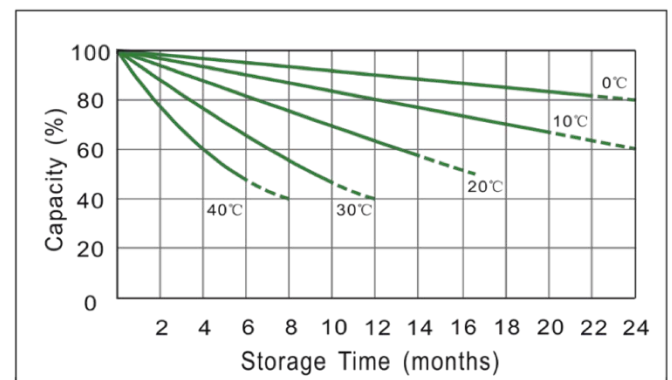
Discharge Characteristics



Cycle service life in relation to depth of discharge



Capacity Storage Characteristics



CAPACITY FACTORS WITH DIFFERENT TEMPERATURE

Battery type		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	6V & 12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM Battery	6V & 12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

MAINTENANCE & CAUTIONS

- Charging Procedure

Application	Charging method	Charge voltage at 25°C	Temperature compensation coefficient of charging voltage	Max. charging current	Temperature
For standby power source	Constant voltage charging (With current restriction)	2.25~2.30 V/cell	-3mV/°C/cell	0.2CA	-20~50°C
For cycle service		2.45~2.50 V/cell	-4mV/°C/cell	0.3CA	

- Every month, recommend inspection every battery voltage
- Every three months, recommend equalization charge for one time.
Equalization charge method:
Step 1: Discharge: 100% rate capacity discharge.
Step 2: Charge: Max. Current 0.3CA, constant voltage 2.45-2.50V/Cell charge 24h.
- Avoid battery over discharge, especially battery in series connection use. Charged with recommend voltage ensure battery can be full charged. In general, recharge capacity should be 1.1-1.15 times discharge cycles.
- Length of service life will be directly affected by the number of discharge cycles, depth of discharge, Ambient temperature and charging voltage.
- Charge the batteries at least once every six months, if they are stored at 25°C.
Charging Method:
 - Constant Voltage: -0.2C×2h+2.4~2.45V/cell×24h, Max. Current 0.25CA
 - Constant Current: -0.2C×2h+0.1C×12h
 - Fast: -0.2C×2h+0.3C×4h
- Terminal of torque:

Bolt	M5	M6	M8
Terminal	T3、T10	T4、T7、T11、T12、T13	T5、T6、T8、T9、T14
Torque	6~7N.m	8~10N.m	10~12N.m

Notice: The manufacturer reserves the right to change and modify the design and specifications without prior notice.

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