

By using special active materials, Gel-VRLA battery has stable performance, high reliability, long service life and strong adaptability to ambient temperature (-20°C - 60°C). It has abilities of long time discharge, deep discharge and high current discharge. The life of Gel-VRLA battery is about twice as long as that of ordinary VRLA battery, with strong charging and receiving ability, small self-discharge, good over-discharge recovery performance. It is applied in solar energy system, telecom, emergency lighting, UPS, marine, etc.

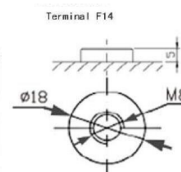
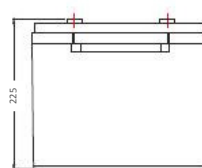
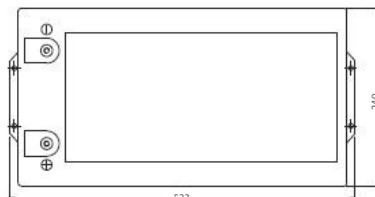
## Specification

Cells per Unit	6
Voltage per Unit	12V
Capacity	200Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 54.0 KGS (Tolerance $\pm 1.8\%$ )
Max. Discharging Current	1000A (5 sec)
Internal Resistance	Approx. 3.5 m $\Omega$
Operating Temperature Range	Discharge: - 40°C - 50°C Charge: 0°C - 50°C Storage: - 40°C - 50°C
Normal Operating Temperature Range	25°C $\pm$ 5°C
Float Charging Voltage	13.6 - 14.4 VDC/unit average @ 25°C
Recommended Maximum Charging Current	30A
Equalization and Cycle Service	14.6 - 14.8 VDC/unit average @ 25°C
Self Discharge	The battery can be stored for more than 6 months at 25°C. Self-discharge ratio less 3% per month at 25°C. Please charge battery before using.
Terminal	Terminal F14
Container Material	ABS



## Dimensions

Unit: mm

Dimension: 522(L)  $\times$  240(W)  $\times$  218(H)

### Constant Current Discharge Characteristics: A (25°C)

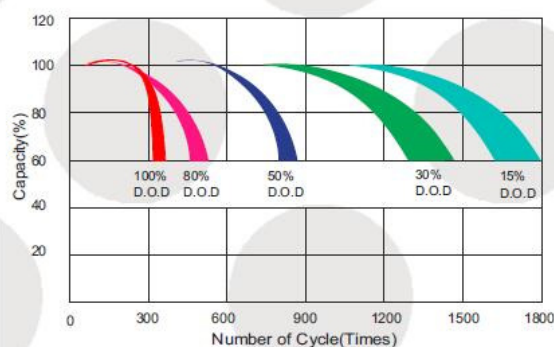
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	740.5	554.7	448.1	261.2	162.3	100.2	68.09	54.90	45.58	30.02	27.06	14.32
10.0V	719.1	527.8	438.9	257.9	160.1	98.18	66.83	54.12	45.17	29.90	26.79	14.06
10.2V	697.8	509.2	432.0	253.9	158.6	97.14	66.24	53.58	44.87	29.63	26.53	13.79
10.5V	626.6	469.9	411.3	246.9	156.7	95.87	65.65	52.79	44.50	29.37	26.26	13.52
10.8V	565.6	428.5	379.2	238.8	154.5	95.08	64.88	50.98	44.28	29.25	26.02	13.38
11.1V	482.9	382.9	340.1	229.7	150.8	91.25	63.61	50.25	43.96	29.01	25.72	12.84

### Constant Power Discharge Characteristics: W (25°C)

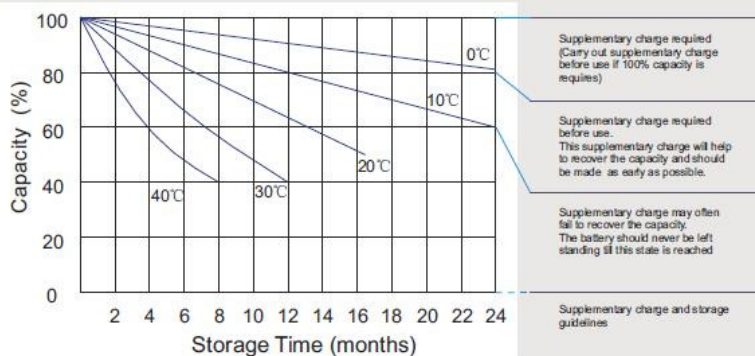
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	7660	5908	4929	2990	1881	1174	802	657.2	546.0	359.5	324.4	172.5
10.0V	7509	5727	4850	2959	1863	1160	790	647.9	541.1	358.1	321.9	169.5
10.2V	7423	5576	4795	2934	1852	1152	786	641.9	537.8	355.4	319.0	166.4
10.5V	6758	5192	4574	2874	1841	1137	780	633.2	533.5	352.4	315.9	163.3
10.8V	6155	4786	4228	2806	1817	1129	771	611.8	531.1	350.9	312.8	161.7
11.1V	5406	4327	3806	2729	1790	1086	758	603.1	529.1	348.4	309.4	155.9

All mentioned values are average values (Tolerance  $\pm 2\%$ ).

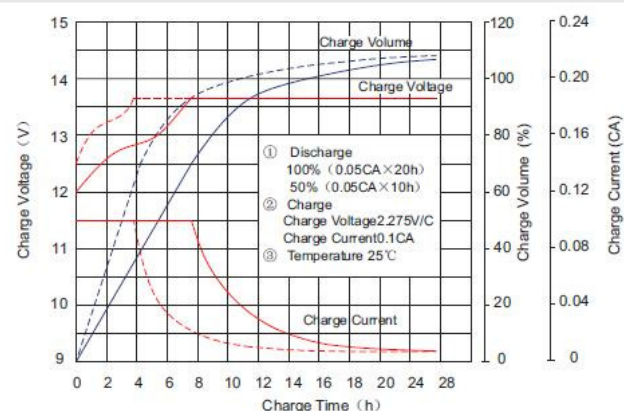
Life characteristics of cyclic use



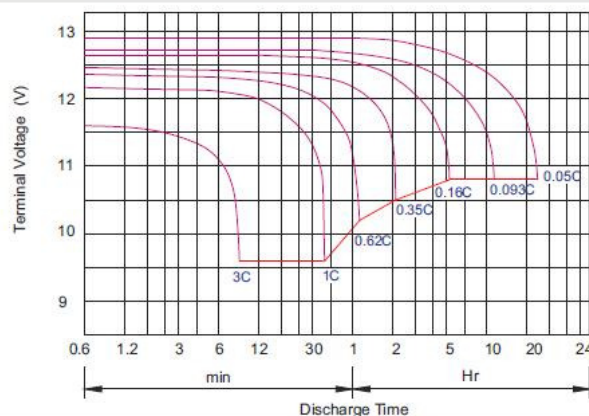
Storage characteristic



Charge characteristic Curve for standby use



Discharge characteristic Curve



## 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%

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/cell	1.75V	1.70V	1.60V
Discharge Current (A)	(A) ≤ 0.2C	0.2C < (A) < 1.0C	(A) ≥ 1.0C

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

Constant Voltage	-0.2C×2h+14.4-14.7V×24h, Max. Current 0.3C
Constant Current	-0.2C×2h+0.1C×7h+0.05C×4h
Fast	-0.2C×2h+0.3C×3h

Bolt	M5	M6	M8
Terminal	F3 F4 F13 F18 T25 T26	F8 F11 F12-1 F15	F5 F9 F10 F12 F14 F16
Torque	6~7N·m	8~10N·m	10~12N·m

## Maintenance &amp; Cautions

## Cycle service

※ Avoid battery over discharge, especially battery series connection use.
※ Charged with recommend voltage, ensure battery can be full recharged.
In general, recharge capacity should be 1.1-1.15 times discharge capacity.
※ Effect of temperature on cycle charge voltage: -4mV/°C/Cell.
※ There are a number of factors that will affect the length of cyclic service.
The most significant are depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged.
Generally speaking, the most important factors is depth of discharge.