



# DG12-180 (12V180Ah)

DG (Deep Cycle GEL , 12 Volts ) series is pure GEL battery with 12 years floating design life , it is ideal for standby or frequent cyclic discharge applications under extreme environments. By using strong grids, high purity lead and patented Gel electrolyte, the DG series offers excellent recovery after deep discharge under frequent cyclic discharge use, and can deliver 400 cycles at 100% DOD. Suitable for solar, CATV, marine , RV and deep discharge UPS, communication , and telecommunication , etc.



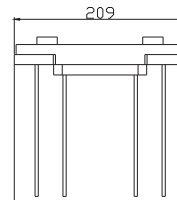
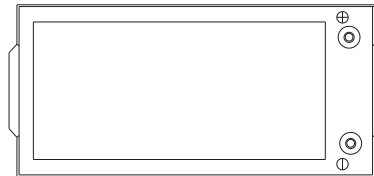
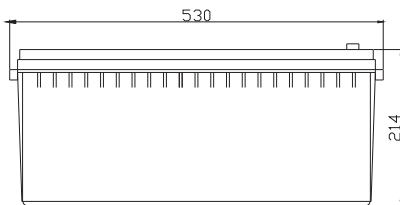
## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	180Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 53.0 Kg(Tolerance±1.5%)
Max. Discharge Current	1800 A (5 sec)
Internal Resistance	Approx. 5.5 mΩ
Operating Temperature Range	Discharge: -40°C~60°C Charge:-20°C~50°C Storage: -40°C~60°C
Normal Operating Temperature Range	25°C ± 5°C
Float charging Voltage	13.6 to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current	36A
Equalization and Cycle Service	14.2 to 14.4VDC/unit Average at 25°C
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) 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.
Terminal	Terminal F12/F16
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

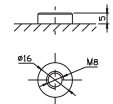


## Dimensions

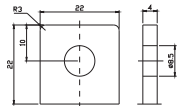
Unit: mm Dimension: 530(L)×209(W)×214(H)



Terminal F12



Terminal F16



### Constant Current Discharge Characteristics: A (25°C)(The capacity reaches the peak value after 5-20 cycles.)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	428.7	306.8	246.3	165.0	104.9	63.18	45.71	36.49	30.98	20.98	17.42	9.549
10.0V	416.3	291.9	241.2	163.6	104.5	62.71	45.53	36.32	30.80	20.81	17.25	9.376
10.2V	404.0	281.6	237.4	162.6	103.5	62.23	45.18	36.15	30.61	20.64	17.09	9.202
10.5V	367.0	263.0	228.7	160.1	102.5	61.76	45.01	35.81	30.25	20.47	16.92	9.000
10.8V	335.1	242.6	213.3	154.5	99.04	60.65	43.78	34.97	29.51	19.65	16.38	8.546
11.1V	289.4	219.3	193.5	146.1	94.09	57.96	41.85	33.28	28.24	18.82	15.90	8.043

### Constant Power Discharge Characteristics: W (25°C)(The capacity reaches the peak value after 5-20 cycles.)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	4434	3267	2709	1881	1213	744.7	545.3	434.9	369.6	250.5	208.2	114.5
10.0V	4347	3167	2666	1875	1210	740.8	544.1	434.3	368.6	249.3	206.9	112.5
10.2V	4297	3084	2636	1865	1200	736.3	541.7	433.4	367.4	247.7	205.0	110.4
10.5V	3958	2906	2544	1839	1190	730.9	539.6	429.4	363.0	245.7	203.0	108.3
10.8V	3647	2710	2378	1780	1155	721.6	524.9	419.6	354.1	235.9	196.6	102.6
11.1V	3240	2479	2165	1688	1106	694.8	502.3	399.3	338.9	225.9	190.7	96.52

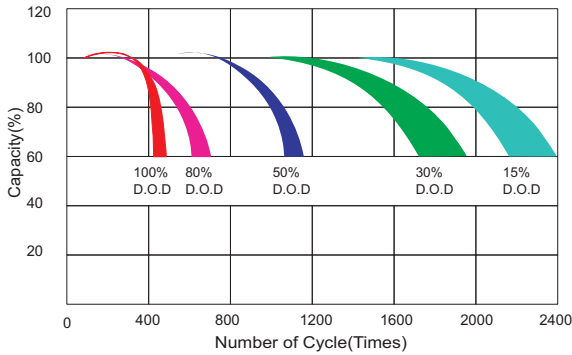
All mentioned values are average values (Tolerance ±2%).

# DG12-180

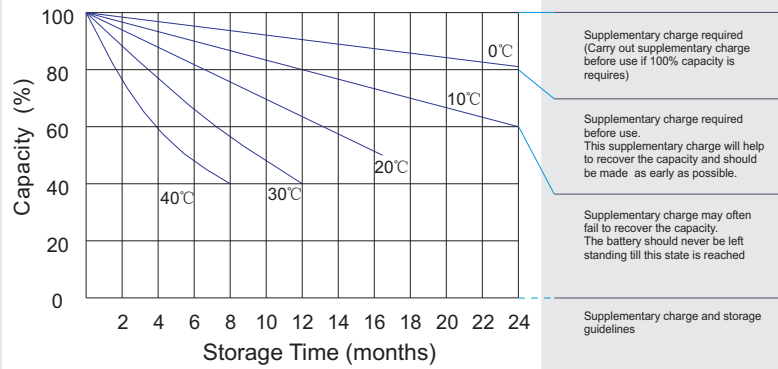
12V180Ah



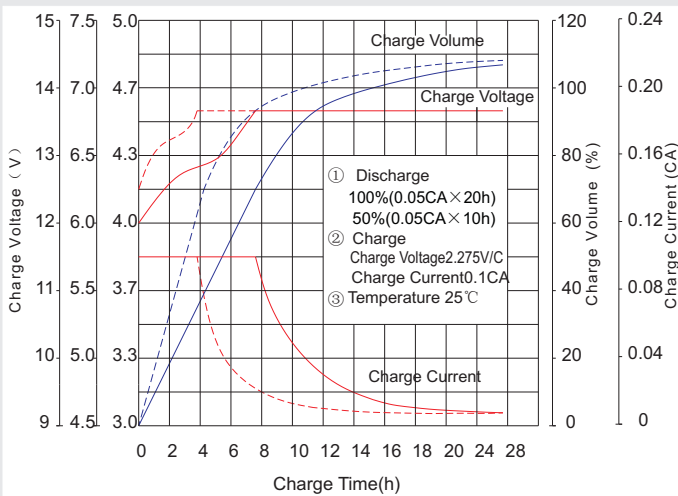
## Life characteristics of cyclic use



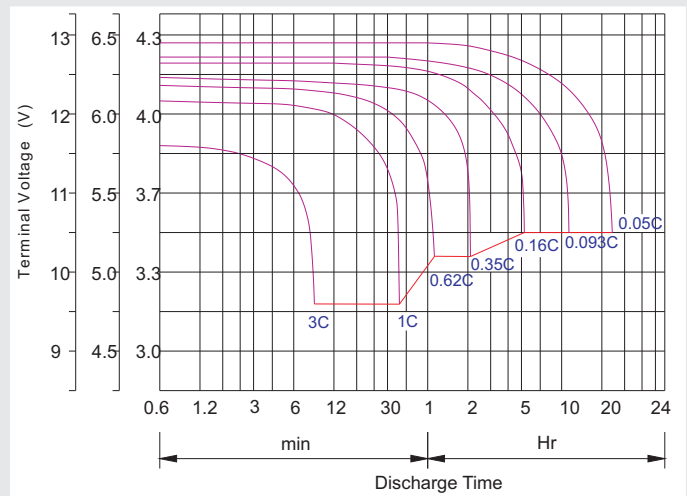
## Storage characteristic



## Charge characteristic curve for cyclic 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	-0.2Cx2h+2.4-2.45V/cellx24h, Max. Current 0.2C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.2Cx6h

## Maintenance & 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 specking, the most important factors is depth of discharge.

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