



# DG12-230 (12V230Ah)

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	230Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 67.0 Kg ( Tolerance±1.5%)
Max. Discharge Current	2300 A (5 sec)
Internal Resistance	Approx. 6.0 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	46A
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
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



MH28539



G4M20206-0910-E-16



CERTIFICATE

Postcode:421001

is in conformity with

ISO 14001:2004 Standard



CERTIFICATE

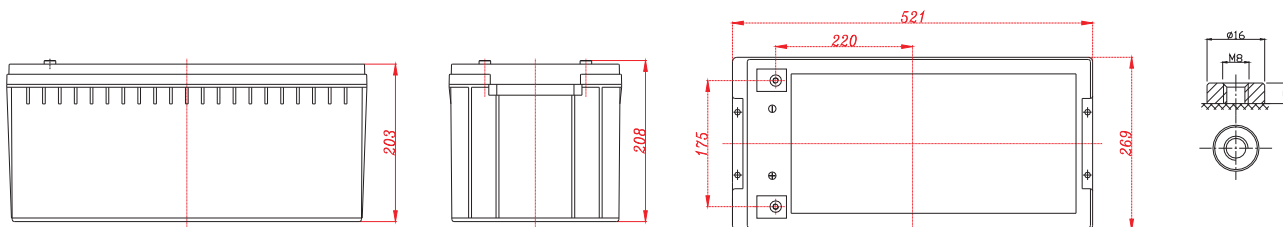
Postcode:421001

is in conformity with

OHSAS 18001:1999 Standard

## Dimensions

Unit: mm Dimension: 521(L)×269(W)×208(H)



### 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	547.8	392.0	314.7	210.9	134.1	80.73	58.40	46.62	39.58	26.81	22.26	12.20
10.0V	532.0	373.0	308.2	209.1	133.5	80.12	58.18	46.40	39.35	26.59	22.05	11.98
10.2V	516.2	359.8	303.4	207.8	132.2	79.52	57.73	46.19	39.12	26.38	21.83	11.76
10.5V	469.0	336.0	292.3	204.5	131.0	78.91	57.51	45.76	38.65	26.16	21.62	11.50
10.8V	428.2	310.0	272.5	197.4	126.6	77.49	55.94	44.68	37.71	25.11	20.93	10.92
11.1V	369.8	280.3	247.3	186.7	120.2	74.05	53.48	42.52	36.09	24.05	20.31	10.28

### 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	5666	4175	3462	2404	1550	951.6	696.8	555.7	472.2	320.1	266.0	146.3
10.0V	5554	4047	3406	2396	1546	946.5	695.2	555.0	471.0	318.6	264.3	143.8
10.2V	5491	3940	3368	2383	1534	940.8	692.2	553.8	469.4	316.5	262.0	141.1
10.5V	5058	3713	3250	2350	1520	934.0	689.5	548.6	463.8	313.9	259.4	138.4
10.8V	4660	3463	3039	2275	1476	922.1	670.7	536.1	452.5	301.4	251.3	131.0
11.1V	4140	3167	2767	2157	1413	887.8	641.8	510.2	433.0	288.6	243.7	123.3

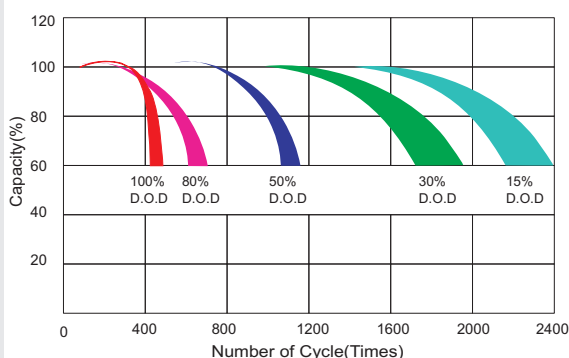
All mentioned values are average values (Tolerance ±2%).

# DG12-230

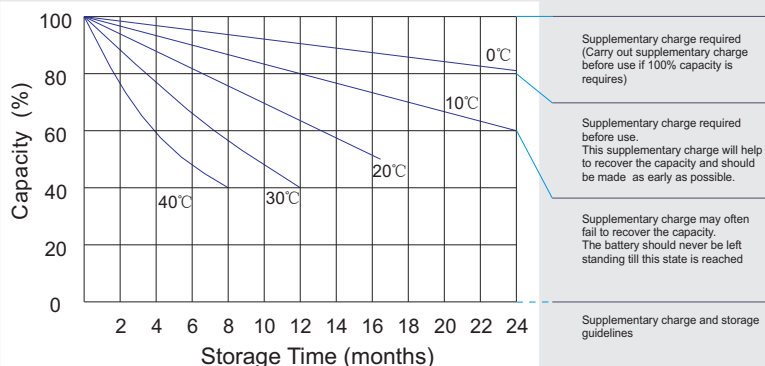
12V230Ah



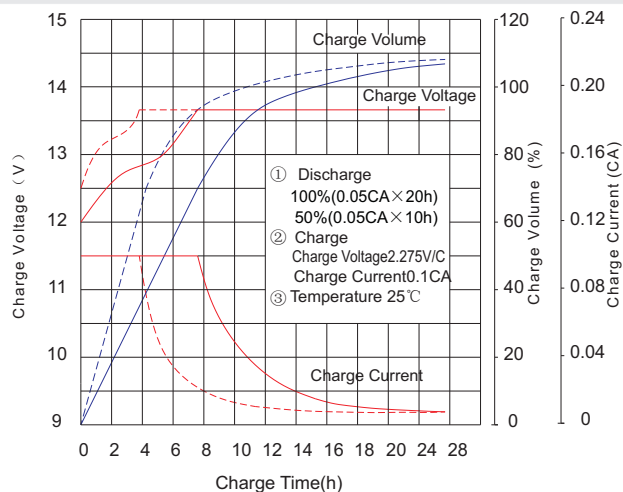
Life characteristics of cyclic use



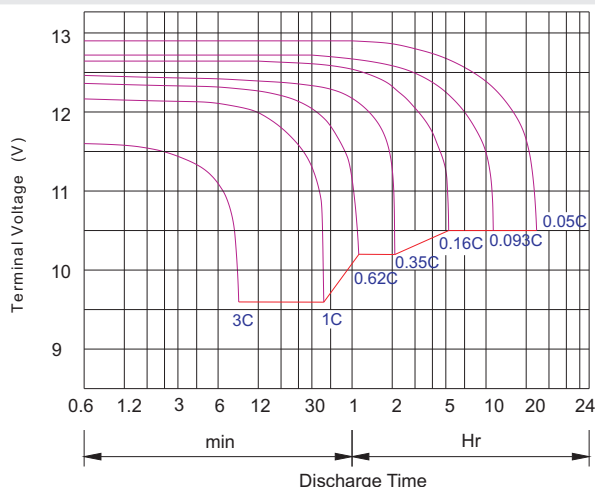
Storage characteristic



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+14.4-14.7Vx24h, Max. Current 0.2C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.2Cx6h

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 & 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.