



# DG12-100 (12V100Ah)

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.



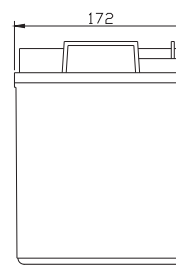
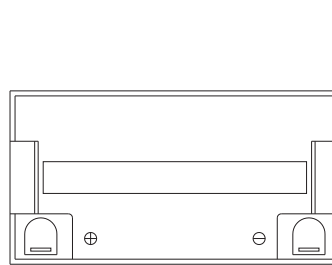
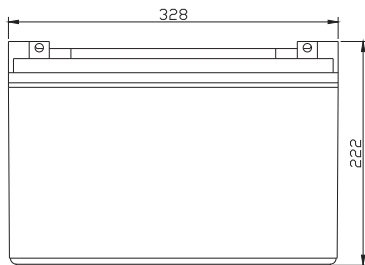
## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	100Ah@20hr-rate to 1.80V per cell @25°C
Weight	Approx. 30.0 Kg (Tolerance±2%)
Max. Discharge Current	1000 A (5 sec)
Internal Resistance	Approx. 7.5 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	13.6to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	20A
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 F5/F12
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

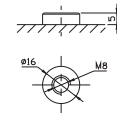


## Dimensions

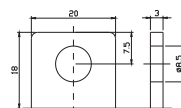
Unit: mm Dimension: 328(L)×172(W)×222(H)



Terminal F12



Terminal F5



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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	248.9	185.4	145.0	95.38	55.90	33.43	23.08	19.12	16.10	11.00	9.12	4.87
10.0V	241.7	176.4	142.1	93.80	55.64	33.18	23.00	19.03	16.00	10.91	9.03	4.78
10.2V	234.5	170.1	139.8	92.97	55.12	32.93	22.82	18.95	15.91	10.82	8.95	4.69
10.5V	213.1	158.9	134.7	93.17	54.61	32.68	22.73	18.77	15.72	10.73	8.86	4.60
10.8V	194.5	146.6	125.6	92.46	53.32	32.09	22.11	18.33	15.44	10.55	8.77	4.51
11.1V	168.0	132.5	114.0	87.39	50.65	30.66	21.14	17.44	14.77	10.10	8.51	4.25

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	2626	1974	1581	1070	645.9	394.0	274.7	227.9	192.1	131.3	109.0	58.36
10.0V	2574	1914	1556	1058	644.4	391.9	274.8	227.6	191.6	130.7	108.3	57.34
10.2V	2545	1863	1538	1061	639.4	389.6	273.6	227.2	190.9	129.8	107.4	56.28
10.5V	2344	1755	1485	1064	633.7	386.7	272.5	225.0	188.6	128.7	106.3	55.22
10.8V	2159	1637	1388	1057	622.0	381.8	265.1	219.9	185.2	126.6	105.2	54.16
11.1V	1919	1497	1264	1005	595.3	367.6	253.7	209.3	177.3	121.2	102.1	50.97

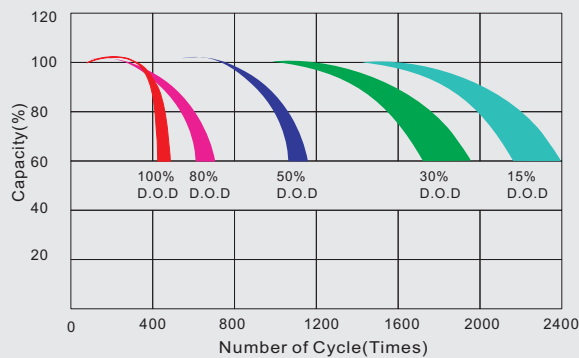
All mentioned values are average values(Tolerance±2%).

# DG12-100

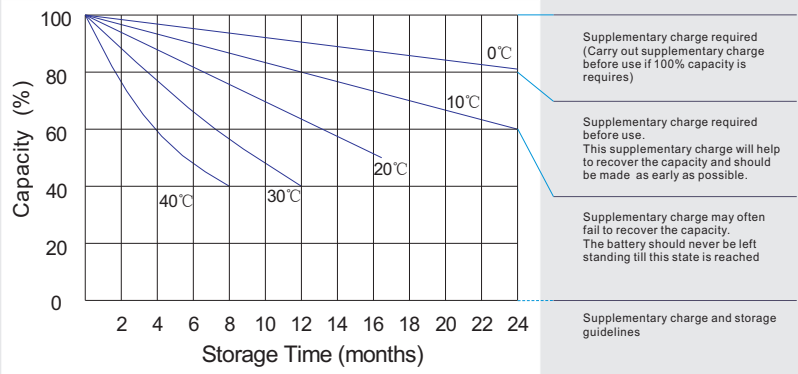
# 12V100Ah



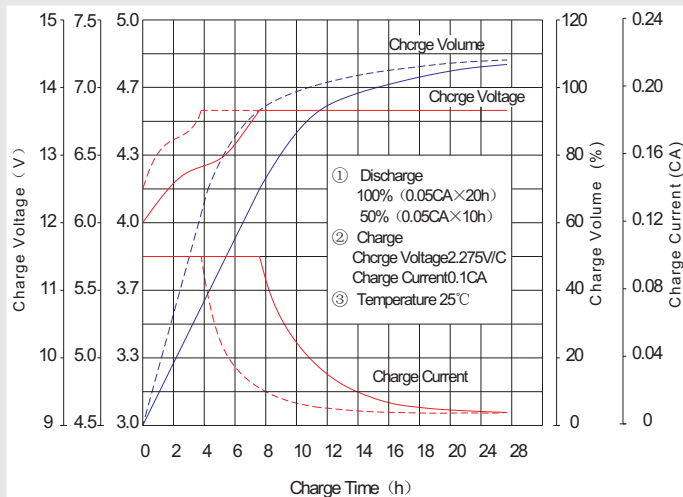
Life characteristics of cyclic use



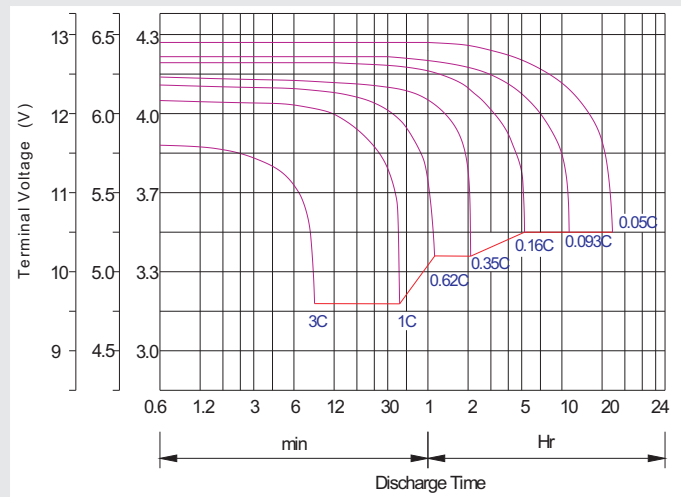
Storage characteristic



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

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

## Maintenance & Cautions

<b>Cycle service</b>
※ 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.