



# RA12-100DG (12V100Ah)

RA12-100DG is GEL Deep cycle battery, with 12 years floating design life, superiorly designed for frequent cyclic discharge applications under extreme temperature. By using strong grid to insure reliable performance under frequent cyclic discharge use. 400 cycles could be available at 100% DOD. Offering extra-durable cyclic performance, high efficiency of recovery, that is more suitable for solar, mobility, E-toll, marine, deep discharge UPS etc..



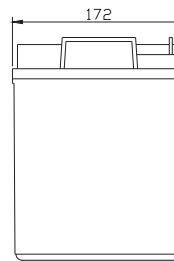
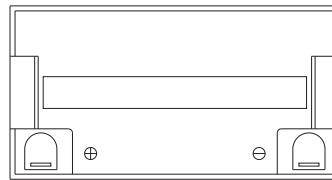
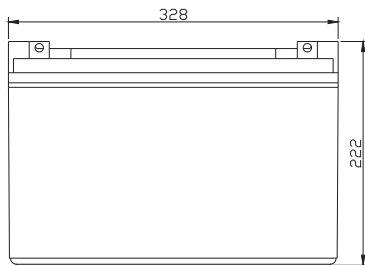
## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	100Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 30.0 Kg
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), Flammability resistance of UL94-V1 can be available upon request.

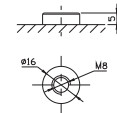


## Dimensions

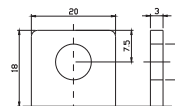
Unit: mm Dimension: 328(L)×172(W)×222(H)



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	261.98	195.11	152.68	100.40	58.840	35.189	24.299	20.129	16.947	11.576	9.6015	5.1232
10.0V	254.40	185.64	149.54	98.736	58.569	34.924	24.206	20.036	16.847	11.482	9.5092	5.0301
10.2V	246.86	179.09	147.19	97.863	58.026	34.660	24.020	19.942	16.747	11.388	9.4169	4.9369
10.5V	224.28	167.22	141.80	98.072	57.482	34.395	23.927	19.756	16.548	11.294	9.3246	4.8438
10.8V	204.79	154.28	132.23	97.326	56.125	33.778	23.275	19.290	16.249	11.105	9.2322	4.7506
11.1V	176.87	139.49	119.97	91.991	53.318	32.278	22.251	18.358	15.551	10.635	8.9553	4.4712

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	2763.8	2077.9	1664.4	1126.5	679.93	414.76	289.16	239.94	202.18	138.22	114.74	61.427
10.0V	2709.4	2014.2	1637.7	1113.6	678.31	412.56	289.27	239.63	201.66	137.55	114.02	60.361
10.2V	2678.4	1961.1	1619.3	1116.6	673.06	410.07	288.00	239.11	200.97	136.65	113.00	59.243
10.5V	2467.1	1847.8	1562.7	1119.7	667.01	407.09	286.88	236.88	198.58	135.52	111.89	58.125
10.8V	2273.1	1723.3	1461.1	1112.4	654.71	401.90	279.07	231.48	194.99	133.27	110.79	57.007
11.1V	2019.6	1576.2	1330.4	1057.7	626.68	386.97	267.01	220.30	186.61	127.62	107.46	53.654

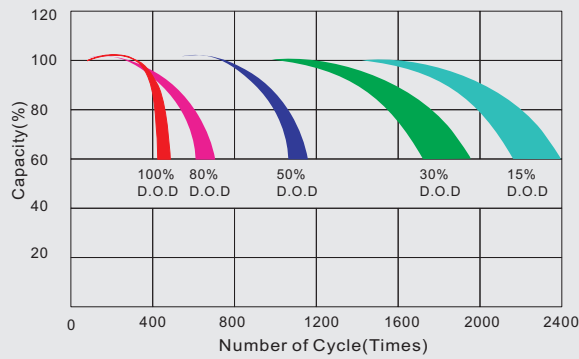
All mentioned values are average values.

# RA12-100DG

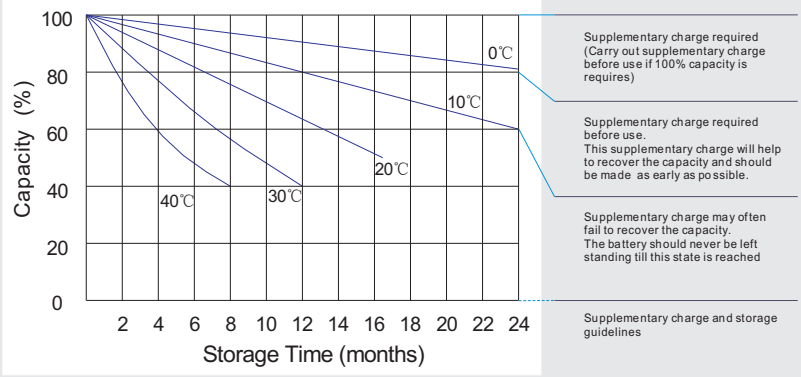
12V100Ah



## Life characteristics of cyclic use



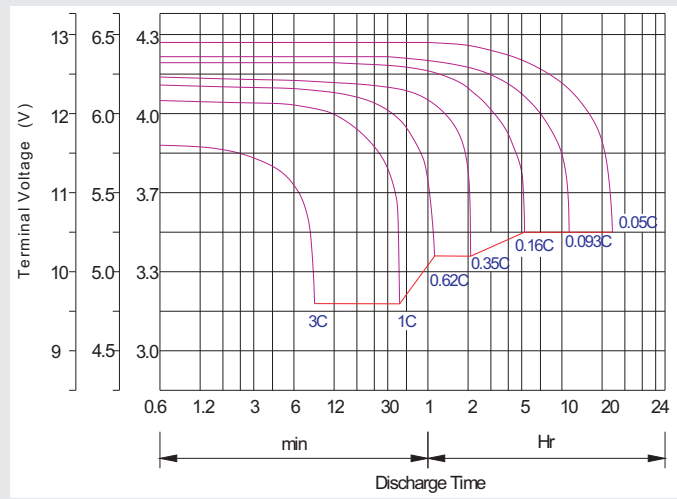
## Storage characteristic



## 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

## 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.

**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 0.3CA
Constant Current	-0.2Cx2h+0.1CAx12h
Fast	-0.2Cx2h+0.3CAx4.0h