



# RA12-225DG (12V225Ah)

RA12-225DG 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	225Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 65.0 Kg
Max. Discharge Current	2250 A (5 sec)
Internal Resistance	Approx. 4.0 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	13.6to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	45A
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), Flammability resistance of UL94-V1 can be available upon request.



MH28539



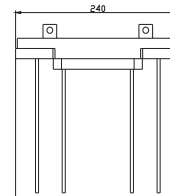
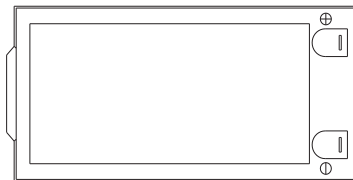
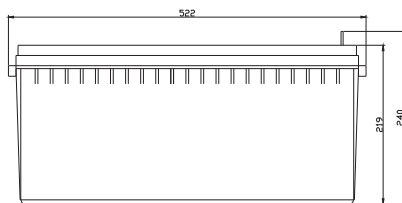
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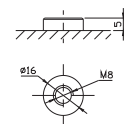
ISO9001:2000 Certificate

## Dimensions

Unit: mm Dimension: 522(L)×240(W)×219(H)



Terminal F12



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

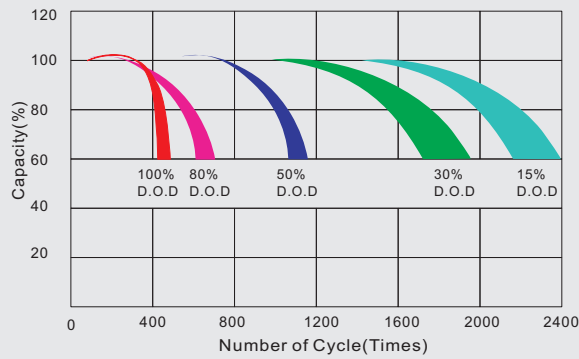
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	564.1	403.7	324.1	217.2	132.4	79.22	54.76	44.88	36.73	25.30	21.39	11.77
10.0V	547.8	384.1	317.4	213.7	131.8	78.62	54.55	44.67	36.52	25.10	21.19	11.55
10.2V	531.6	370.5	312.4	213.9	130.6	78.03	54.13	44.46	36.30	24.89	20.98	11.34
10.5V	482.9	346.0	301.0	210.6	129.3	77.43	53.92	44.04	35.87	24.68	20.78	11.12
10.8V	441.0	319.2	280.7	203.3	126.3	76.04	52.45	43.01	35.22	24.27	20.57	10.91
11.1V	380.8	288.6	254.6	192.3	120.0	72.67	50.14	40.93	33.71	23.24	19.95	10.27

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	5835	4299	3565	2476	1530	933.7	651.6	534.9	438.2	302.1	255.7	141.1
10.0V	5720	4168	3507	2447	1526	928.8	651.8	534.2	437.1	300.7	254.0	138.6
10.2V	5654	4057	3468	2454	1514	923.2	649.0	533.1	435.6	298.7	251.8	136.1
10.5V	5208	3823	3347	2420	1501	916.5	646.5	528.1	430.4	296.2	249.3	133.5
10.8V	4799	3566	3129	2342	1473	904.8	628.9	516.1	422.6	291.3	246.9	130.9
11.1V	4263	3261	2849	2221	1410	871.2	601.7	491.1	404.5	278.9	239.4	123.2

All mentioned values are average values.

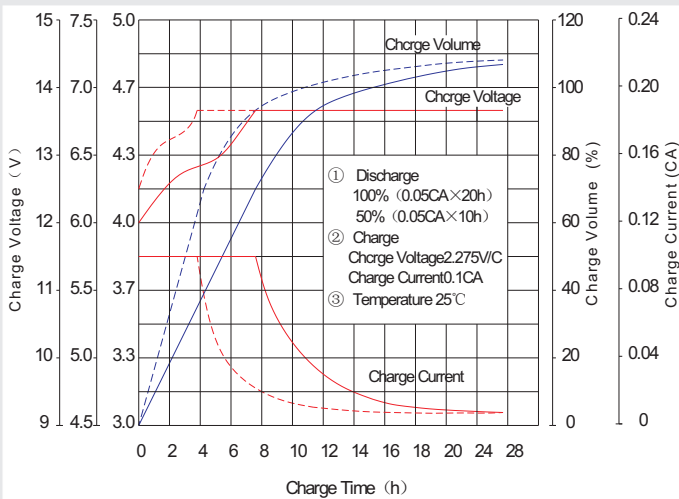
### Life characteristics of cyclic use



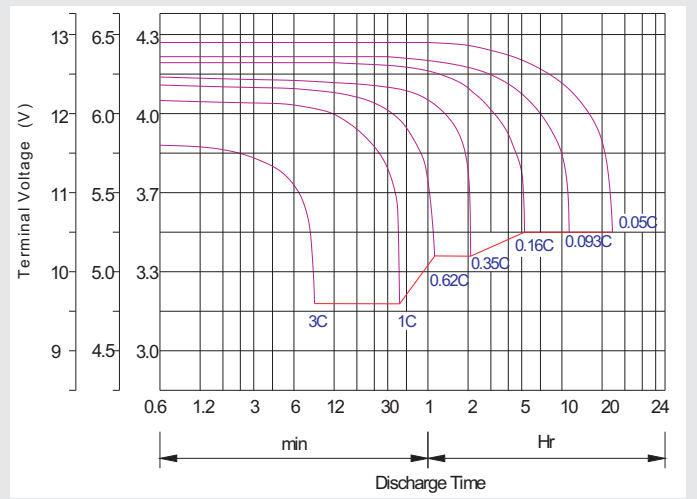
### Storage characteristic



### 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