



RA12-230DG (12V230Ah)

RA12-230DG 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	230Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 67.0 Kg
Max. Discharge Current	2300 A (5 sec)
Internal Resistance	Approx. 5.7 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 Limit	46A
Equalization and Cycle Service	14.2 to 14.4VDC/unit Average at 25°C
Self Discharge	RITAR 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), Flammability resistance of UL94-V1 can be available upon request.



MH28539



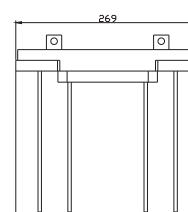
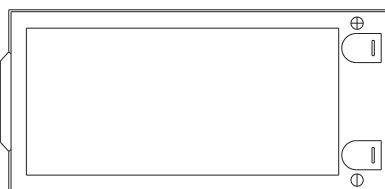
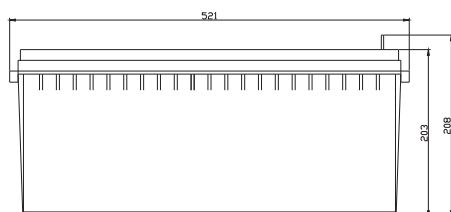
G4M20206-0910-E-16



ISO9001:2000 Certificate

Dimensions

Unit: mm Dimension: 521(L)×269(W)×203(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	725.38	519.79	378.20	237.42	134.19	76.607	53.883	44.593	37.553	25.919	21.915	11.590
10.0V	705.98	494.57	370.45	233.49	133.57	76.031	53.676	44.386	37.332	25.708	21.704	11.379
10.2V	665.25	477.12	364.63	231.43	132.33	75.455	53.264	44.180	37.111	25.497	21.494	11.168
10.5V	597.37	440.27	347.17	225.65	131.09	74.879	53.057	43.767	36.669	25.287	21.283	10.958
10.8V	539.18	401.48	320.02	215.74	128.00	73.535	51.612	42.735	36.007	24.865	21.072	10.747
11.1V	469.36	358.81	287.05	202.11	121.60	70.271	49.341	40.670	34.460	23.812	20.440	10.115

Constant Power Discharge Characteristics: W (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.6V	6908.6	5051.9	3719.6	2679.3	1534.7	881.26	621.82	515.29	434.73	300.76	246.42	130.16
10.0V	6767.4	4825.2	3642.3	2645.8	1527.3	877.81	620.58	514.06	432.08	299.50	243.89	128.90
10.2V	6388.3	4664.5	3592.9	2614.9	1516.2	869.74	616.87	511.58	430.75	296.97	242.63	127.63
10.5V	5752.5	4310.0	3426.0	2555.4	1501.3	861.68	613.15	507.86	426.78	294.44	240.10	126.37
10.8V	5174.5	3913.3	3147.8	2439.0	1464.1	849.01	598.29	494.24	420.15	288.12	237.58	125.11
11.1V	4466.6	3475.4	2810.8	2285.4	1387.3	809.84	568.56	470.70	398.94	278.01	229.99	120.05

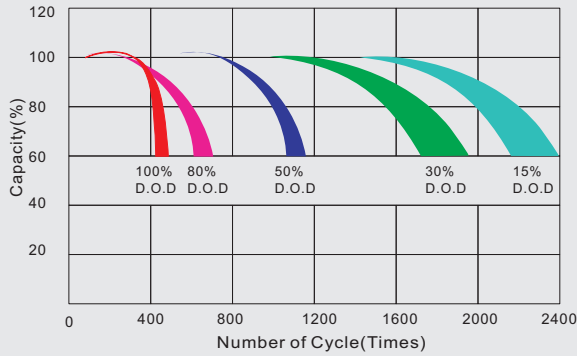
All mentioned values are average values.

RA12-230DG

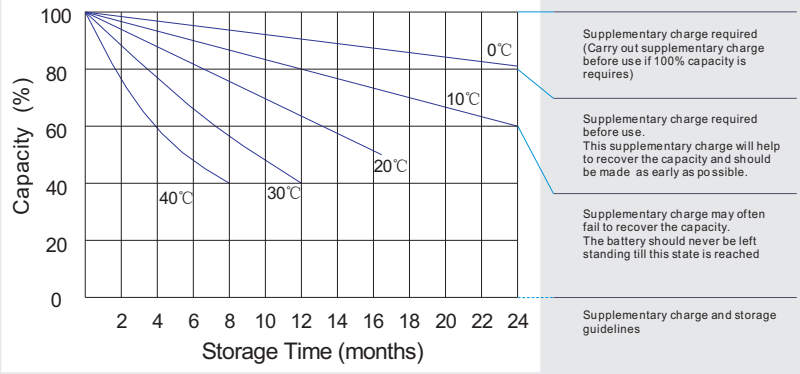
12V230Ah



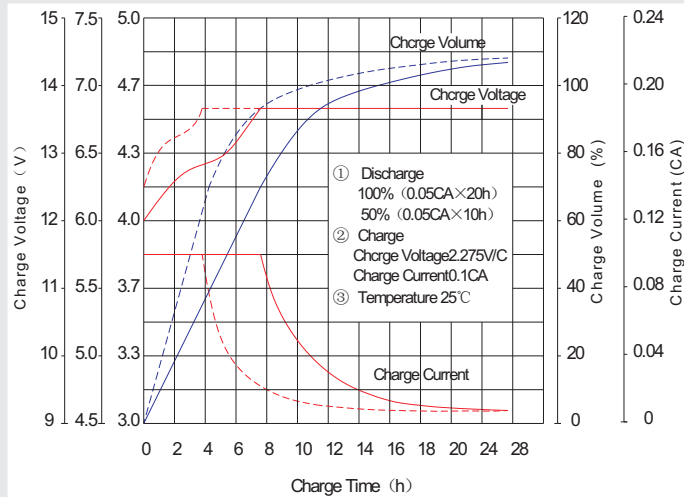
Life characteristics of cyclic use



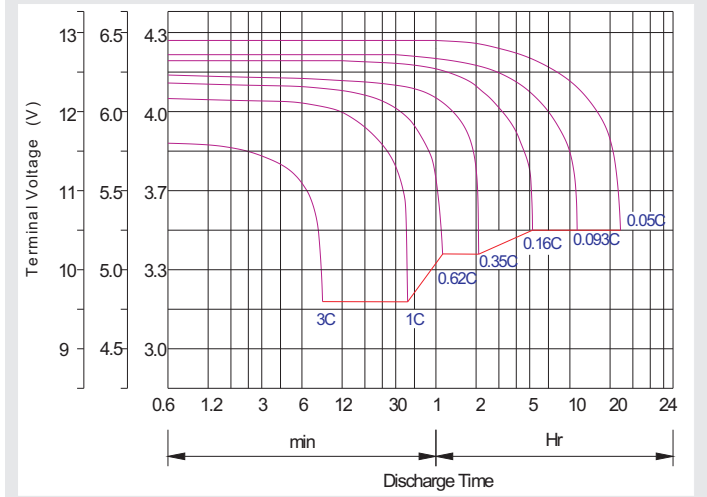
Storage characteristic



Charge characteristic Curve for standby 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

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

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.