



RA12-145DG (12V145Ah)

RA12-145DG 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..



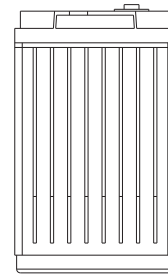
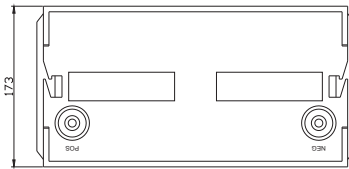
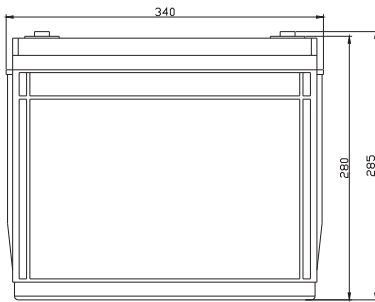
Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	145Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 44.0 Kg
Max. Discharge Current	1450 A (5 sec)
Internal Resistance	Approx. 5.0 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	29A
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.

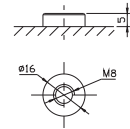


Dimensions

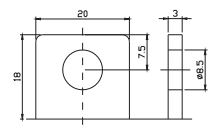
Unit: mm Dimension: 340 (L) × 173 (W) × 280 (H)



Terminal F12



Terminal F5



Constant Current Discharge Characteristics: A (25°C)

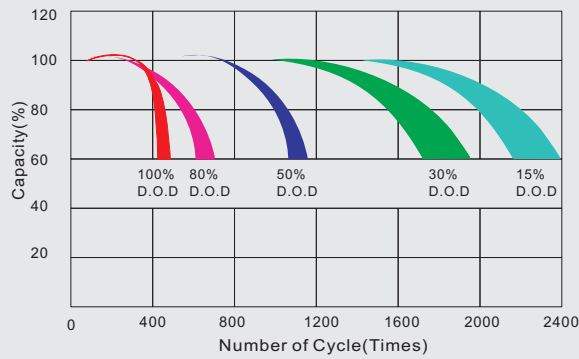
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	363.53	260.15	208.84	139.95	85.318	51.053	35.287	28.920	23.672	16.306	13.787	7.5830
10.0V	353.03	247.53	204.55	137.74	84.925	50.669	35.152	28.786	23.533	16.173	13.654	7.4451
10.2V	342.56	238.80	201.34	137.87	84.137	50.285	34.882	28.652	23.393	16.041	13.522	7.3072
10.5V	311.23	222.97	193.96	135.73	83.350	49.901	34.746	28.384	23.115	15.908	13.389	7.1693
10.8V	284.18	205.72	180.87	131.03	81.381	49.006	33.800	27.715	22.697	15.643	13.257	7.0315
11.1V	245.43	185.99	164.10	123.92	77.312	46.830	32.313	26.376	21.722	14.980	12.859	6.6178

Constant Power Discharge Characteristics: W (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	3760.1	2770.6	2297.2	1595.4	985.9	601.74	419.92	344.73	282.40	194.69	164.76	90.920
10.0V	3686.0	2685.7	2260.3	1577.1	983.5	598.55	420.07	344.28	281.68	193.75	163.72	89.341
10.2V	3643.9	2614.8	2234.9	1581.3	975.94	594.94	418.23	343.54	280.72	192.49	162.26	87.686
10.5V	3356.4	2463.9	2156.8	1559.6	967.17	590.62	416.61	340.33	277.38	190.90	160.67	86.032
10.8V	3092.5	2297.9	2016.7	1509.4	949.32	583.09	405.26	332.58	272.37	187.71	159.08	84.378
11.1V	2747.5	2101.7	1836.2	1431.3	908.69	561.43	387.75	316.51	260.67	179.76	154.31	79.414

All mentioned values are average values.

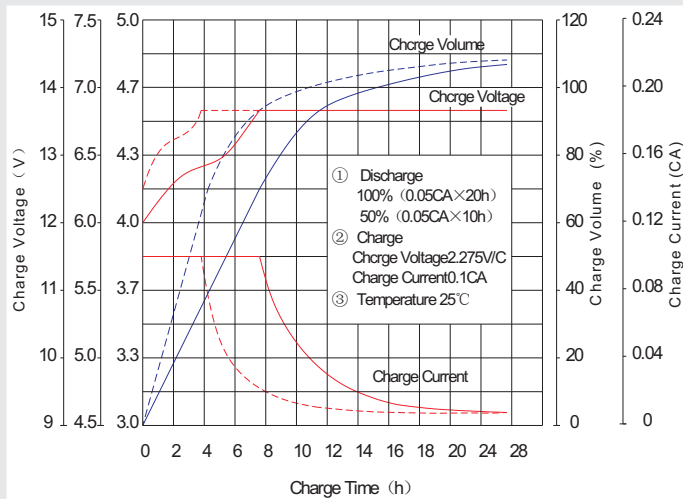
Life characteristics of cyclic use



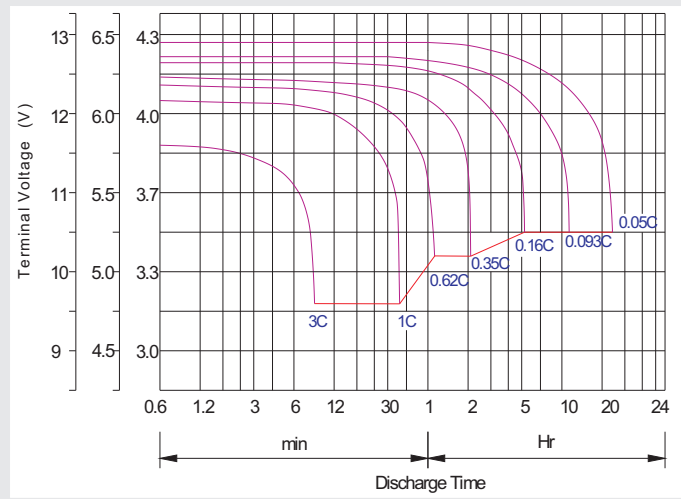
Storage characteristic



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