



RA12-180DG (12V160Ah)

RA12-180DG 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	160Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 53.0 Kg
Max. Discharge Current	1800 A (5 sec)
Internal Resistance	Approx. 5.5 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	13.6 to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	36A
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-d is charge 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



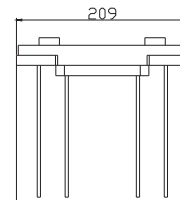
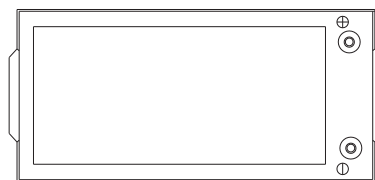
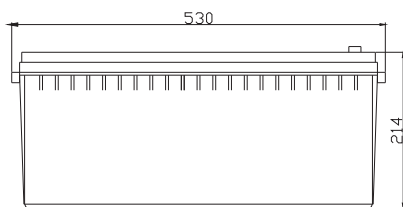
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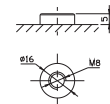
ISO9001:2000 Certificate

Dimensions

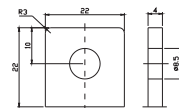
Unit: mm Dimension: 530(L)×209(W)×214(H)



Terminal F12



Terminal F16



Constant Current Discharge Characteristics: A (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	437.7	313.3	251.5	168.5	102.7	61.47	42.49	34.82	28.50	19.63	16.60	9.13
10.0V	425.1	298.1	246.3	165.9	102.3	61.01	42.33	34.66	28.34	19.47	16.44	8.96
10.2V	412.5	287.5	242.4	166.0	101.3	60.55	42.00	34.50	28.17	19.31	16.28	8.80
10.5V	374.8	268.5	233.6	163.4	100.4	60.09	41.84	34.18	27.83	19.16	16.12	8.63
10.8V	342.2	247.7	217.8	157.8	98.0	59.01	40.70	33.37	27.33	18.84	15.96	8.47
11.1V	295.5	224.0	197.6	149.2	93.1	56.39	38.91	31.76	26.16	18.04	15.48	7.97

Constant Power Discharge Characteristics: W (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	4528	3336	2766	1921	1187	724.6	505.6	415.1	340.1	234.4	198.4	109.5
10.0V	4438	3234	2722	1899	1184	720.7	505.8	414.6	339.2	233.3	197.1	107.6
10.2V	4388	3149	2691	1904	1175	716.4	503.6	413.7	338.0	231.8	195.4	105.6
10.5V	4042	2967	2597	1878	1165	711.2	501.7	409.8	334.0	229.9	193.5	103.6
10.8V	3724	2767	2428	1818	1143	702.1	488.0	400.5	328.0	226.0	191.6	101.6
11.1V	3308	2531	2211	1724	1094	676.0	466.9	381.1	313.9	216.5	185.8	95.6

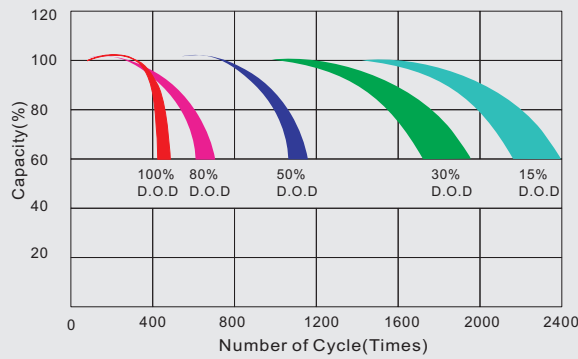
All mentioned values are average values.

RA12-180DG

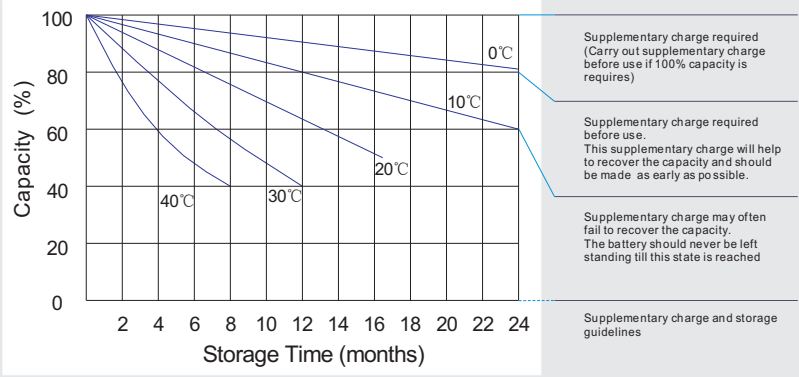
12V160Ah



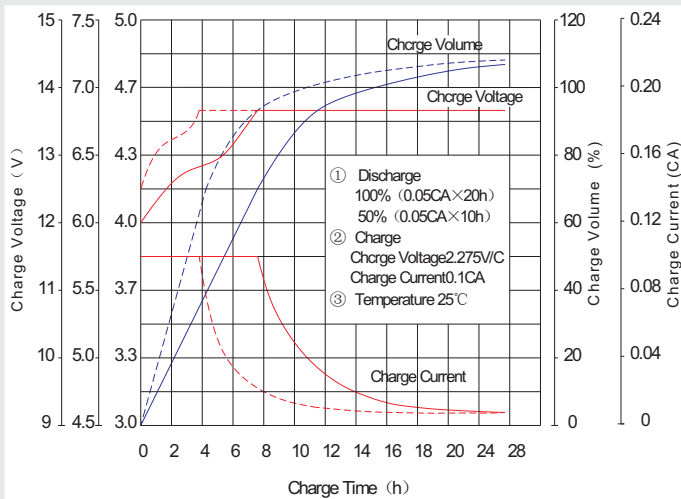
Life characteristics of cyclic use



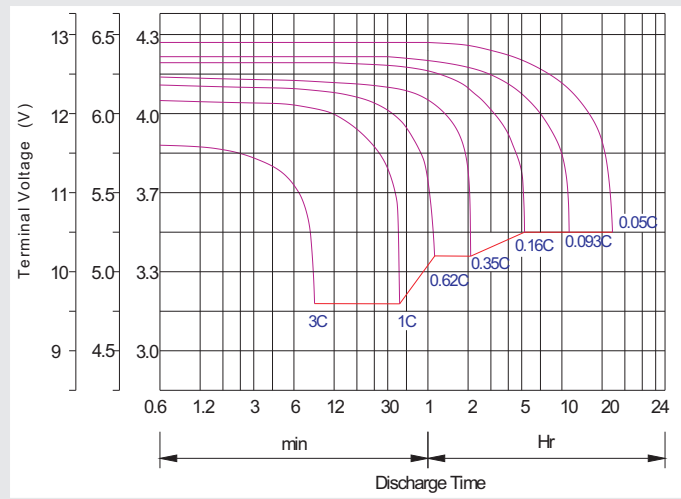
Storage characteristic



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

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 0.3C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.3Cx4.0h

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.



ELECTRONIC TECHNOLOGY SYSTEMS
 DR. GENZ GMBH
 COMPETENT BODY / ACCREDITED TEST HOUSE

EC DECLARATION OF CONFORMITY

This certifies that the following designated product

**SEALED LEAD ACID RECHARGEABLE BATTERY
 MODEL NO. : RAX**

(Product identification)

complies with the essential protection requirements of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. This declaration applies to all specimens manufactured in accordance with the attached manufacturing drawings which form part of this declaration. Assessment of compliance of the product with the requirements relating to electromagnetic compatibility was based on the following standards:

**EN 50081-1 /1992: EN 55014
 EN 50082-1 /1997: EN 55014-2 (EN 61000-4-2)**

(Identification of regulations / standards)

This declaration is the responsibility of the manufacturer / importer

**SHENZHEN RITAR POWER CO., LTD.
 NO. 9 UNIT, FUQIAO NO. 2 INDUSTRY AREA, FUYONG TOWN, BAOAN DISTRICT,
 SHENZHEN, CHINA**

(Name / Address)



THE DOC IS ONLY VALID IN CONNECTION WITH THE TEST REPORT NUMBER : G4M20206-0910-E-16

MANUFACTURER / IMPORTER

TEST LABORATORY

This is the result of test, that was carried out from the submitted type-samples of a product in conformity with the specification of the respective standards. The certificate holder has the right to fix the CE-mark for EMC on the product complying with the inspection sample.

(Date)

June 24, 2002

(Date)

(Surname, forename)
 (Company stamp)



Dr. Genz

Dr. Genz
 (Company stamp)

ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

STORKOWER STRASSE 38C, D-15526 REICHENWALDE B. BERLIN, GERMANY, PHONE +49-33631-888 00 FAX +49-33631-888 660



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and CQM
hereby certify that the organization
Hengyang Ritar Power Co.,Ltd.

Domicile: Xinzhu Village, Songmu Township, Shigu District, Hengyang City, Hunan, P.R.China
Certification Add.:No.1, Huagong Road, Songmu Industrial Zone, Shigu Area, Hengyang City, Hunan, P.R.China

Postcode.:421001

is in conformity with

ISO 9001:2008 Standard

This certificate is valid to the following product(s)/service:
Design and production of lead-acid battery

Issued on: 2011-12-21

Validity date: 2014-12-20

Registration Number: CN-00211Q16746R0M



Michael Drechsel
President of IQNet

Zhang Wei
President of CQM



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Certification Add.:No.1, Huagong Road, Songmu Industrial Zone, Shigu Area, Hengyang City, Hunan, P.R.China

Postcode.:421001
is in conformity with

ISO 14001:2004 Standard

This certificate is valid to the following product(s)/service:
Design and production of lead-acid battery

Issued on: 2011-12-21

Validity date: 2014-12-20

Registration Number: CN-00211E21907R0M



Michael Drechsel
President of IQNet

Zhang Wei
President of CQM



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