



RA12-60 (12V60Ah)

RA12-60 is a general purpose battery with 10 years floating design life, meet with IEC, JIS .BS and Eurobat standard. With heavy duty grid, thickness plates, special additives, RA series battery have long and reliable standby service life. Our RA Series batteries keep high consistent for better performance in series usage.



Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	60Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 20.5 Kg
Max. Discharge Current	600A (5 sec)
Internal Resistance	Approx. 6 mΩ
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°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	18.0 A
Equalization and Cycle Service	14.6 to 14.8 VDC/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 F11/F15
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.



MH28539



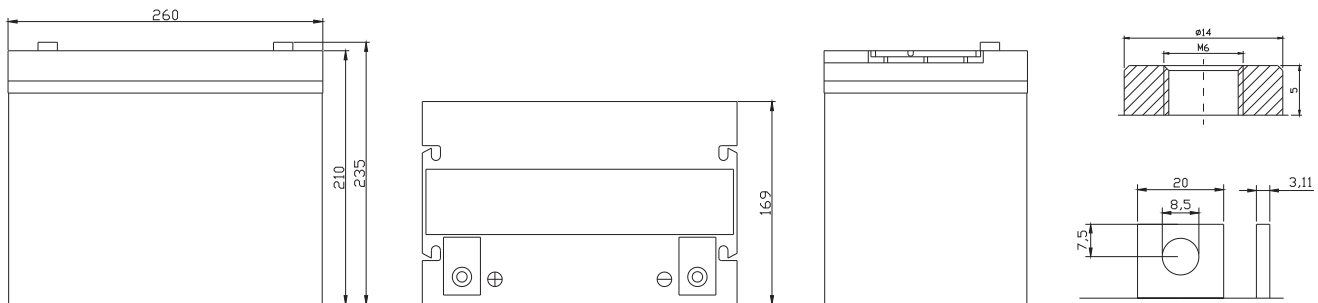
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ISO9001:2000 Certificate

Dimensions

Unit: mm Dimension: 260(L)×169(W)×235(H)



Constant Current Discharge Characteristics: A (25°C)

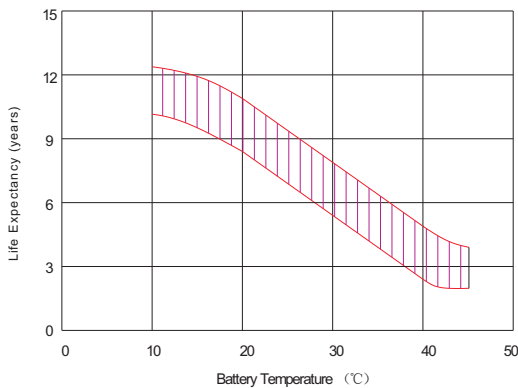
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	201.0	148.0	115.4	70.32	39.00	23.32	16.11	13.34	11.23	7.672	6.364	3.395
10.0V	195.2	140.8	113.0	69.10	38.82	23.15	16.04	13.28	11.17	7.610	6.302	3.334
10.2V	189.4	135.9	111.2	67.82	38.46	22.97	15.92	13.22	11.10	7.548	6.241	3.272
10.5V	170.1	125.4	105.9	67.31	38.10	22.80	15.86	13.09	10.97	7.485	6.180	3.210
10.8V	153.5	114.3	97.63	66.16	37.20	22.39	15.43	12.79	10.77	7.360	6.119	3.149
11.1V	131.1	102.2	87.58	61.94	35.34	21.39	14.75	12.17	10.31	7.049	5.935	2.963

Constant Power Discharge Characteristics: W(25°C)

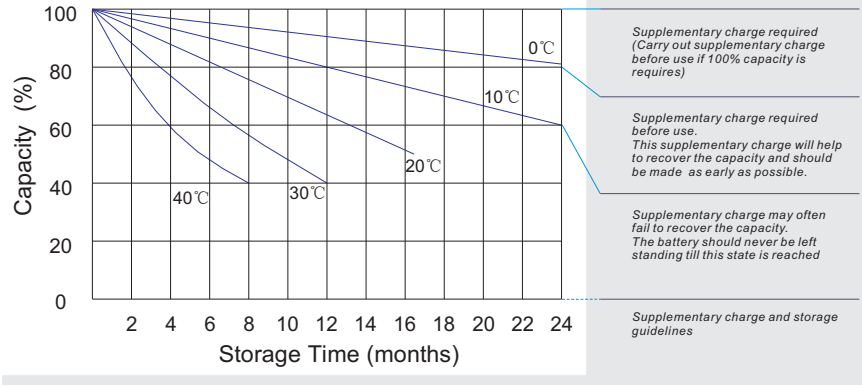
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	2121	1576	1258	789.0	450.7	274.9	191.7	159.0	134.0	91.61	76.04	40.71
10.0V	2079	1528	1238	779.4	449.6	273.4	191.7	158.8	133.7	91.17	75.57	40.00
10.2V	2055	1488	1224	773.8	446.1	271.8	190.9	158.5	133.2	90.57	74.89	39.26
10.5V	1871	1385	1167	768.5	442.1	269.8	190.1	157.0	131.6	89.82	74.16	38.52
10.8V	1704	1277	1079	756.2	433.9	266.4	185.0	153.4	129.2	88.32	73.43	37.78
11.1V	1497	1155	971.2	712.2	415.4	256.5	177.0	146.0	123.7	84.58	71.22	35.56

All mentioned values are average values.

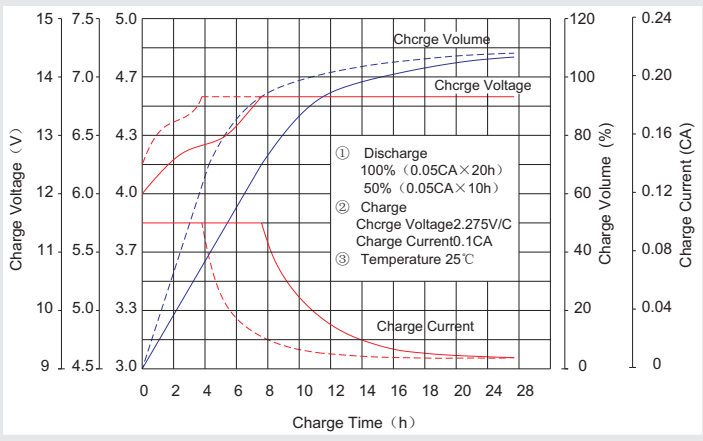
Effect of temperature on long term float life



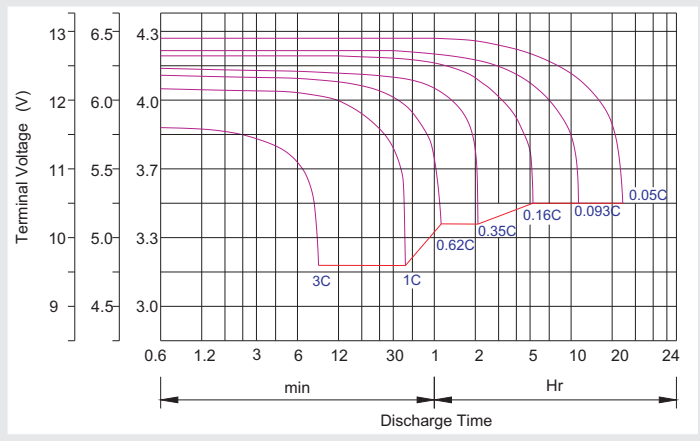
Storage characteristic



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

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

Maintenance & Cautions

Float Service:
※ Every month, recommend inspection every battery voltage.
※ Every three months, recommend equalization charge for one time.
Equalization charge method:
Discharge: 100% rate capacity discharge.
Charge: Max. current 0.3CA, constant voltage 2.4-2.45V/Cell charge 24h.
※ Effect of temperature on float charge voltage: -3mV/°C/Cell.
※ Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.