



# RA12-120S (12V110Ah)

RA12-120S 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	110Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 32.0 Kg
Max. Discharge Current	1100A (5 sec)
Internal Resistance	Approx. 4 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	33A
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 F5/F12
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.



MH28539



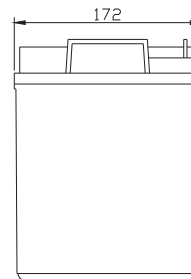
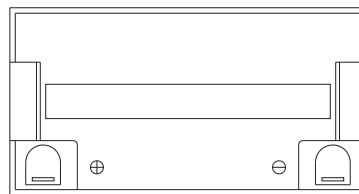
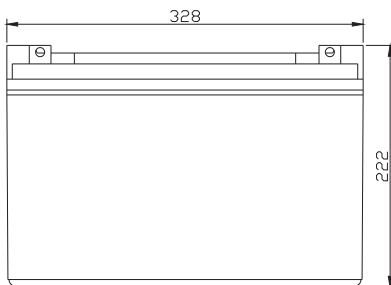
G4M20206-0910-E-16



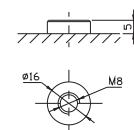
ISO9001:2000 Certificate

## Dimensions

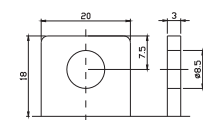
Unit: mm Dimension: 328(L)×177(W)×222(H)



Terminal F12



Terminal F5



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

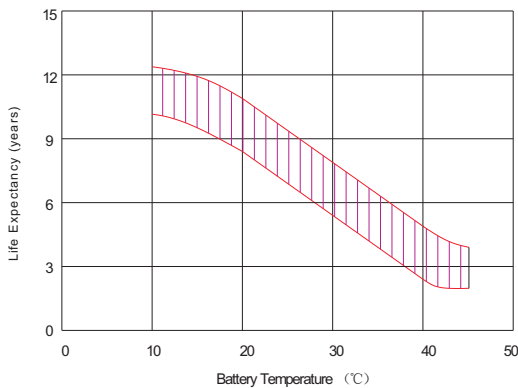
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	352.7	249.5	199.6	123.9	71.50	42.78	29.57	24.24	19.84	13.66	11.55	6.23
10.0V	342.5	237.4	195.5	121.9	71.17	42.46	29.46	24.12	19.72	13.55	11.44	6.11
10.2V	332.4	229.1	192.4	120.8	70.51	42.14	29.23	24.01	19.60	13.44	11.33	6.00
10.5V	298.5	211.4	183.2	117.8	69.85	41.82	29.12	23.79	19.37	13.33	11.22	5.89
10.8V	269.4	192.7	168.9	112.6	68.20	41.07	28.33	23.23	19.02	13.11	11.11	5.77
11.1V	230.0	172.3	151.5	105.5	64.79	39.25	27.08	22.10	18.20	12.55	10.78	5.43

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

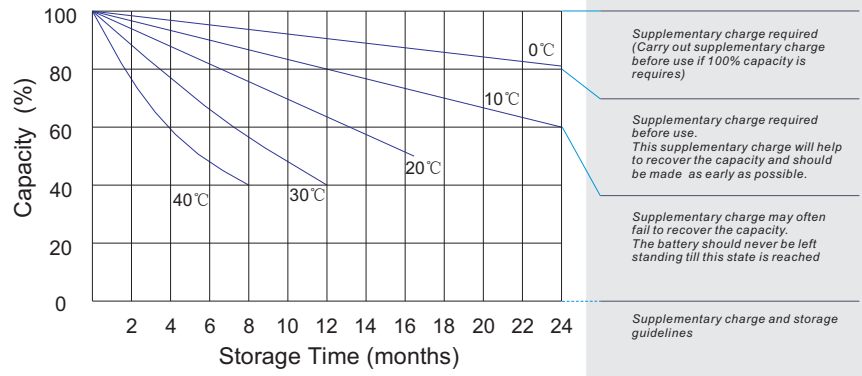
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.6V	3648	2658	2195	1413	826.2	504.3	351.9	288.9	236.7	163.1	138.1	74.66
10.0V	3576	2576	2160	1396	824.2	501.6	352.0	288.5	236.1	162.4	137.2	73.37
10.2V	3536	2508	2136	1386	817.9	498.6	350.5	287.9	235.2	161.3	136.0	72.01
10.5V	3219	2336	2037	1353	810.5	495.0	349.1	285.2	232.4	160.0	134.6	70.65
10.8V	2932	2153	1883	1297	795.6	488.6	339.6	278.7	228.2	157.3	133.3	69.29
11.1V	2575	1946	1695	1219	761.5	470.5	324.9	265.2	218.4	150.6	129.3	65.22

All mentioned values are average values.

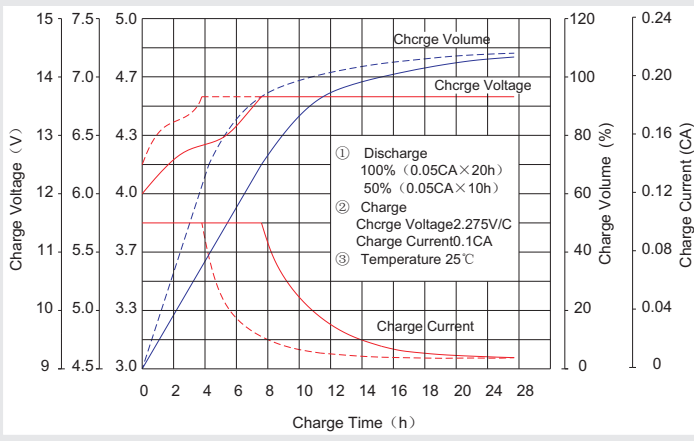
### Effect of temperature on long term float life



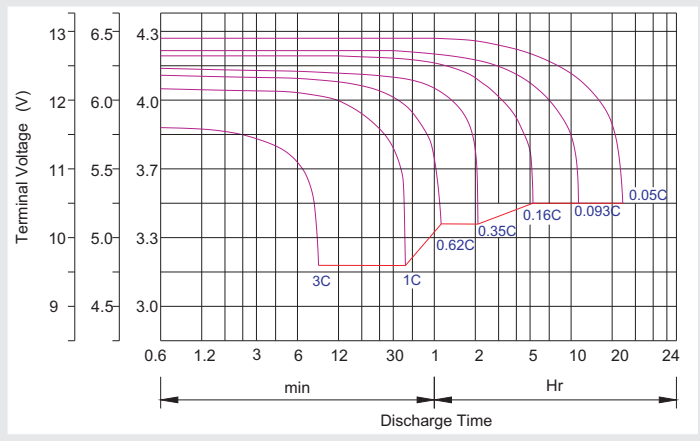
### Storage characteristic



### 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

<b>Float Service:</b>
※ 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.