



# RA12-110F (12V110Ah)

RA12-110F is a front terminal type battery specially designed for Telecom use with 10+ years design life. The adoption of centralized venting system makes sure the battery can be installed in any location, and guarantees high security and reliability.



## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	110Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx.33.0Kg
Max. Discharge Current	1100 A (5 sec)
Internal Resistance	Approx. 5 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	33 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 F9
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.



MH28539



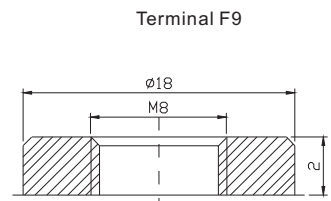
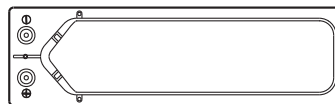
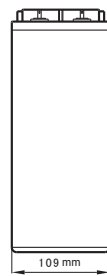
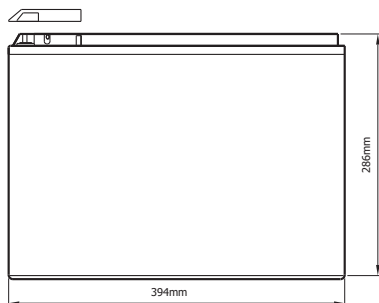
G4M20206-0910-E-16



ISO9001:2000 Certificate

## Dimensions

Unit: mm Dimension: 394(L)×109(W)×285(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	295.8	229.2	178.7	115.0	67.93	41.54	28.71	23.76	19.45	13.66	11.55	6.110
10.0V	287.2	218.1	175.0	113.0	67.61	41.23	28.60	23.65	19.33	13.55	11.44	5.999
10.2V	278.7	210.4	172.3	110.9	66.98	40.91	28.38	23.54	19.22	13.44	11.33	5.888
10.5V	250.3	194.2	164.0	110.0	66.36	40.60	28.27	23.32	18.99	13.33	11.22	5.777
10.8V	225.9	177.1	151.2	108.2	64.79	39.87	27.50	22.77	18.65	13.11	11.11	5.666
11.1V	192.9	158.2	135.6	101.3	61.55	38.10	26.29	21.67	17.85	12.55	10.78	5.332

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	3121	2441	1966	1301	784.9	489.6	341.6	283.2	232.0	163.1	138.1	73.26
10.0V	3059	2367	1934	1286	783.0	487.0	341.8	282.9	231.4	162.4	137.2	71.99
10.2V	3024	2304	1912	1276	777.0	484.1	340.3	282.2	230.6	161.3	136.0	70.65
10.5V	2753	2146	1824	1268	770.0	480.5	339.0	279.6	227.9	160.0	134.6	69.32
10.8V	2507	1978	1686	1247	755.8	474.4	329.7	273.2	223.8	157.3	133.3	67.99
11.1V	2202	1788	1518	1175	723.4	456.8	315.5	260.0	214.2	150.6	129.3	63.99

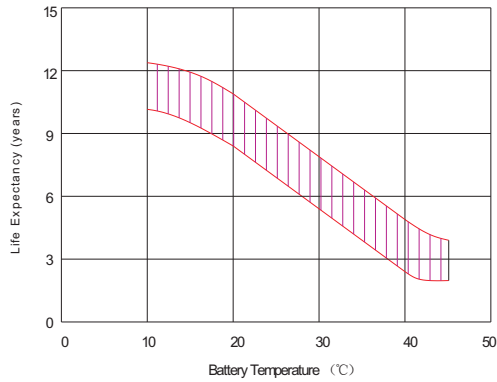
All mentioned values are average values.

# RA12-110F

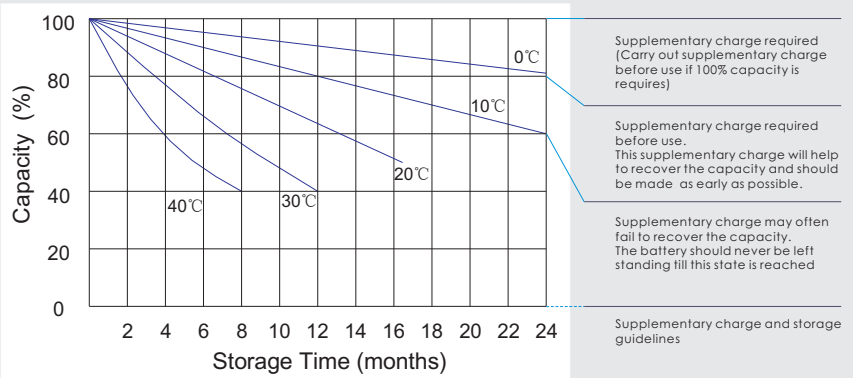
12V110Ah



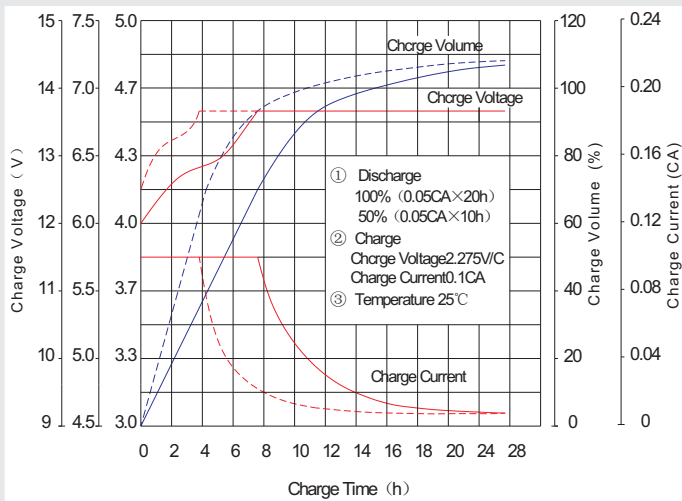
## Effect of temperature on long term float life



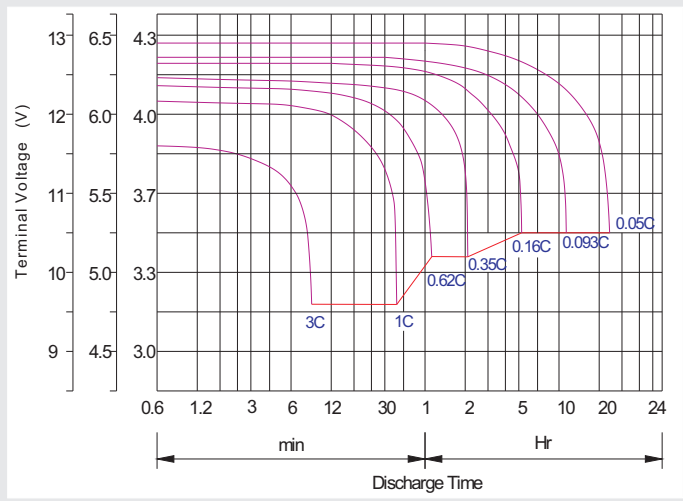
## Storage characteristic



## 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.