



# RA12-40 (12V40Ah)

RA12-40 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	40Ah@10hr-rate to 1.75V per cell @25°C
Weight	Approx. 13.2 Kg
Max. Discharge Current	400A (5 sec)
Internal Resistance	Approx. 8 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	12A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25°C
Self Discharge	RITAR 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 F4/F11
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.



MH28539



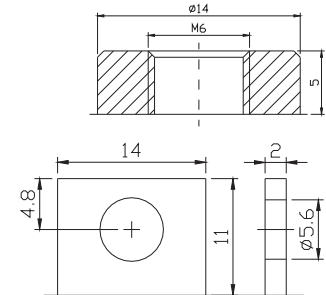
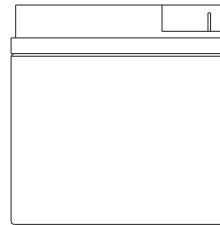
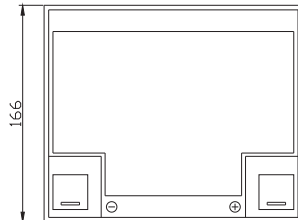
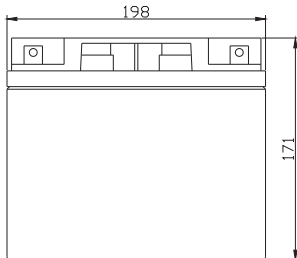
G4M20206-0910-E-16



ISO9001:2000 Certificate

## Dimensions

Unit: mm Dimension: 198(L)×166(W)×171(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	125.80	92.62	71.136	46.000	26.000	14.524	10.440	8.6400	7.0720	4.9687	4.2012	2.2218
10.0V	122.16	88.128	69.677	45.240	25.880	14.414	10.400	8.6000	7.0304	4.9283	4.1608	2.1814
10.2V	118.54	85.018	68.582	44.840	25.640	14.305	10.320	8.5600	6.9888	4.8879	4.1204	2.1410
10.5V	106.44	78.451	65.299	43.720	25.400	14.196	10.280	8.4800	6.9056	4.8475	4.0800	2.1006
10.8V	96.08	71.539	60.192	41.800	24.800	13.941	10.000	8.2800	6.7808	4.7667	4.0396	2.0602
11.1V	83.635	63.936	53.990	39.160	23.560	13.322	9.5600	7.8800	6.4896	4.5648	3.9184	1.9390

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	1227.0	916.0	765.46	493.16	297.36	167.08	120.48	99.840	81.869	57.657	47.240	24.952
10.0V	1194.2	874.9	749.56	487.01	295.92	166.42	120.24	99.600	81.370	57.415	46.755	24.710
10.2V	1158.3	845.7	739.38	481.31	293.76	164.89	119.52	99.120	81.120	56.930	46.513	24.468
10.5V	1043.0	781.46	705.03	470.36	290.88	163.36	118.80	98.400	80.371	56.446	46.029	24.226
10.8V	938.2	709.54	647.78	448.93	283.68	160.96	115.92	95.760	79.123	55.234	45.544	23.983
11.1V	809.86	630.14	578.45	420.66	268.80	153.54	110.16	91.200	75.130	53.296	44.091	23.014

All mentioned values are average values.



### Effect of temperature on long term float life



### Storage characteristic



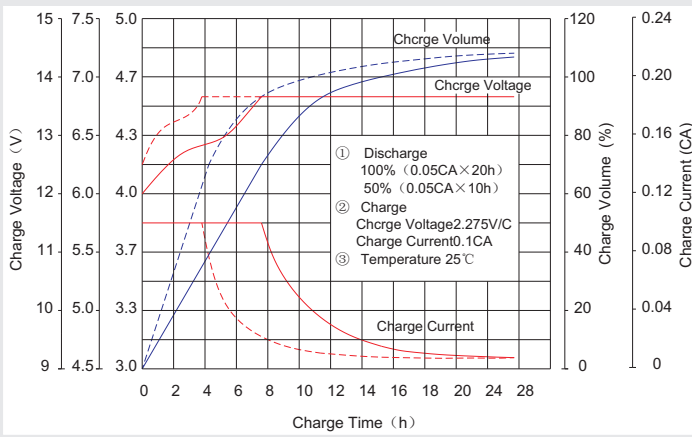
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is required)

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

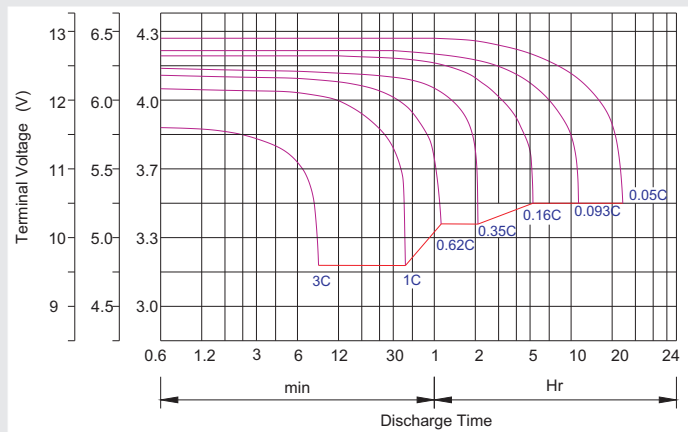
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

### 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.