



RA12-40H (12V40.0Ah) (150W/cell)

HR (High Rate) series is especially designed for heavy load discharge applications with 10 years design life in float service. By using strong grids and specially designed active material the HR series offers stable performance during high current discharge requirements. The HR series offers 30% more power output than the standard range. Suitable for UPS/EPS where high current loads are required.



Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	150W@15min-rate to 1.67V per cell @25°C
Weight	Approx. 13.0 Kg(Tolerance ± 3%)
Max. Discharge Current	400A (5 sec)
Internal Resistance	Approx. 7.5 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	12 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	Faston tabF4/F11
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



MH28539



G4M20206-0910-E-16



CERTIFICATE

Postcode: 421001
is in conformity with
ISO 14001:2004 Standard

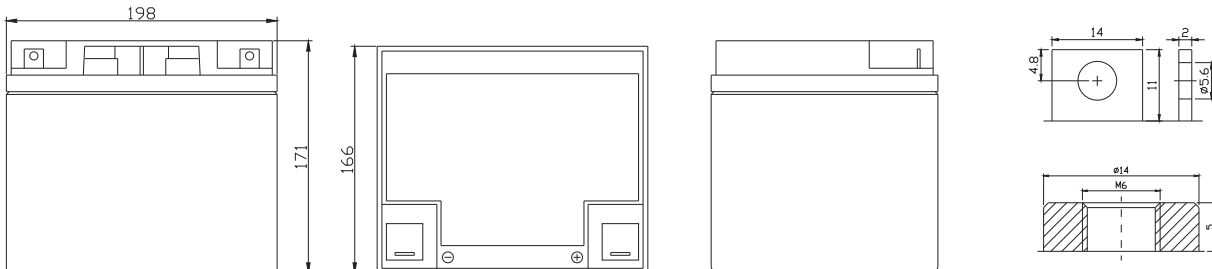


CERTIFICATE

Postcode: 421001
is in conformity with
OHSAS 18001:1999 Standard

Dimensions

Unit: mm Dimension: 198(L) × 166(W) × 171(H)



Constant Current Discharge Characteristics : A(25°C)

F.V /Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
9.60V	151.4	124.2	112.3	82.42	66.13	47.25	26.46	21.10
10.0V	147.1	117.7	111.73	80.50	62.28	45.50	25.94	20.37
10.2V	142.7	114.9	105.80	77.34	60.62	44.73	25.50	20.01
10.5V	128.1	110.6	96.66	73.40	57.70	43.08	24.90	19.63
10.8V	115.7	106.2	86.55	70.10	55.87	41.30	24.31	19.29
11.1V	98.7	97.78	79.64	66.80	53.86	39.92	23.57	18.52

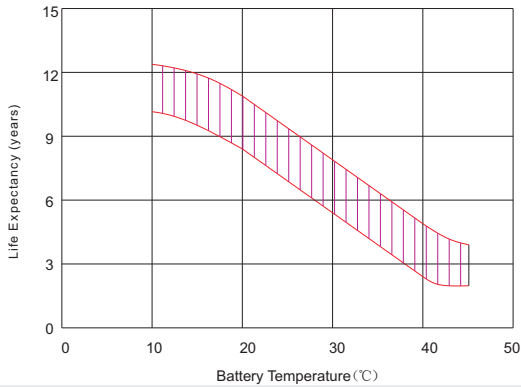
Constant Power Discharge Characteristics : W(25°C)

F.V /Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
9.60V	1598	1318	1248	959.9	730.1	527.2	295.9	236.1
10.0V	1566	1266	1239	943.1	694.6	512.5	289.5	229.2
10.2V	1548	1232	1182	915.3	681.1	504.9	287.3	226.8
10.5V	1409	1205	1100	886.8	656.6	492.9	285.8	225.5
10.8V	1284	1156	1078.8	849.6	636.5	476.5	280.9	223.8
11.1V	1128	1095	1057.5	812.3	622.2	462.2	275.8	217.1

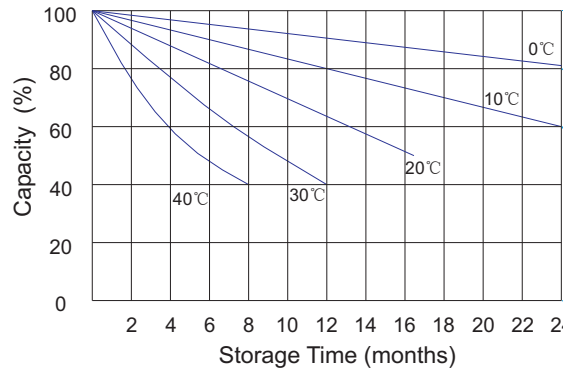
All mentioned values are average values (Tolerance ±2%).



Effect of temperature on long term float life



Storage characteristic



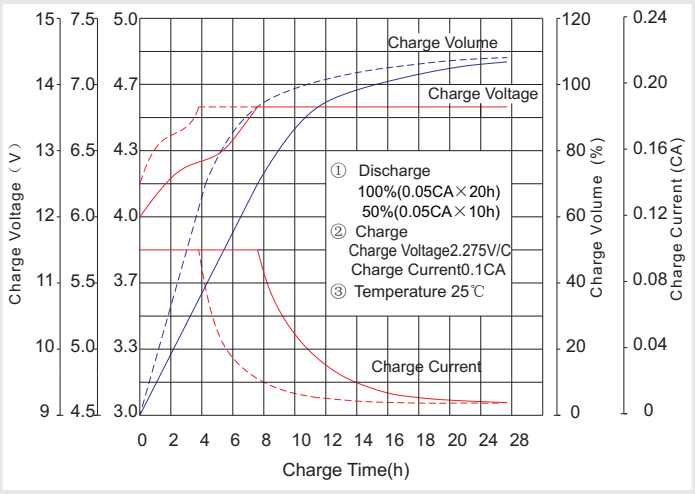
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is required)

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

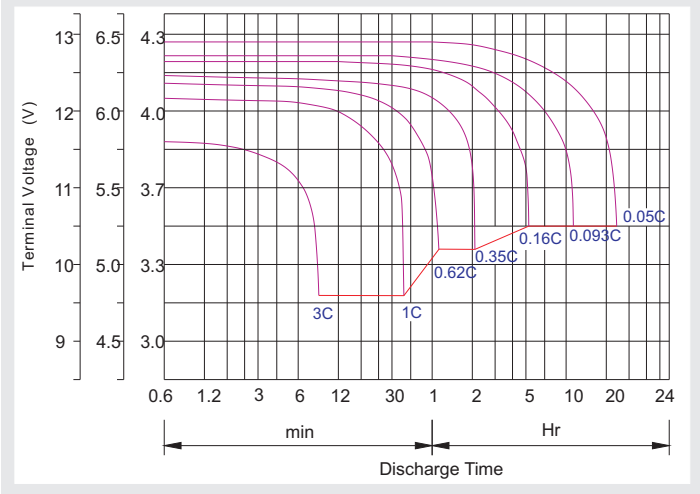
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

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 + 2.4~2.5V/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.