



RA12-33(12V33Ah)

Specification



RA series is a general purpose battery with 12 years design life in float service. It meets with IEC, JIS, BS, GB/T and YD/T standards. With advanced AGM valve regulated technology and high purity raw material, the RA series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/EPS, Telecom, power grid, medical equipment, emergency light and security system applications.



Cells Per Unit	6
Voltage Per Unit	12
Nominal Capacity	33Ah@10hour-rate to 1.80V per cell @25°C
Weight	Approx. 9.6 Kg (Tolerance ±3.0%)
Internal Resistance	Approx. 12 mΩ
Terminal	F7(M8)/F11(M6)
Max. Discharge Current	330A (5 sec)
Short Circuit Current	825A
Design Life	12 years (Float charging)
Max. Charging Current	9.9 A
Reference Capacity	C3 25.5AH C5 28.8AH C10 33.0AH C20 35.0AH
Standby Use Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
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
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

Dimensions

Length	195±2mm (7.68 inches)
Width	130±2mm (5.12 inches)
Height	155±2mm (6.10 inches)
Total Height	168±2mm (6.61 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

Constant Current Discharge Characteristics : A (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	105.7	80.5	61.2	36.1	20.2	12.0	9.31	7.32	6.23	4.18	3.48	1.82
1.65V	101.9	76.1	58.5	34.7	19.5	11.6	9.02	7.12	6.06	4.14	3.44	1.79
1.70V	96.9	70.1	54.8	33.2	18.8	11.2	8.78	6.92	5.91	4.07	3.39	1.77
1.75V	90.5	64.1	51.0	31.7	18.1	10.9	8.51	6.75	5.76	4.02	3.34	1.75
1.80V	82.5	58.1	47.1	30.3	17.5	10.5	8.25	6.55	5.61	3.95	3.30	1.73
1.85V	72.6	47.4	39.1	26.1	15.7	9.59	7.63	6.09	5.23	3.71	3.11	1.64

Constant Power Discharge Characteristics : WPC (25°C)

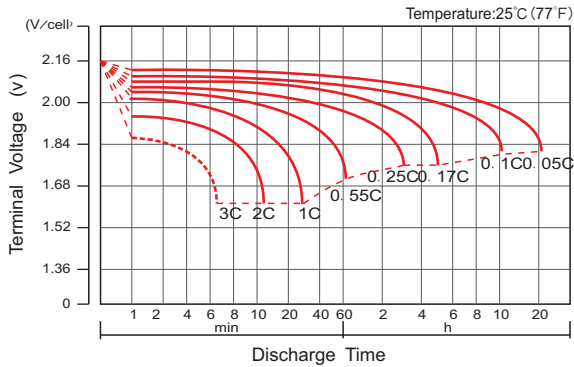
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	182.0	136.9	107.0	65.6	37.9	22.8	17.8	14.0	12.0	8.17	6.84	3.59
1.65V	180.0	131.9	103.8	63.7	36.8	22.1	17.3	13.7	11.7	8.10	6.77	3.53
1.70V	173.2	123.6	98.6	61.5	35.8	21.5	16.9	13.4	11.5	7.99	6.68	3.50
1.75V	164.7	115.2	93.1	59.4	34.7	20.9	16.5	13.1	11.2	7.89	6.60	3.46
1.80V	152.7	106.1	87.2	57.3	33.6	20.2	16.0	12.8	11.0	7.78	6.52	3.43
1.85V	136.7	88.3	73.4	49.8	30.3	18.6	14.9	11.9	10.3	7.32	6.15	3.26

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values. The battery must be fully charged before the capacity test. The C₁₀ should reach 95% after the first cycle and 100% after the third cycle.

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Discharge Characteristics Curve



Charge Characteristic Curve For Standby Use



Cycle Life In Relation To Depth Of Discharge



Relationship Between Charging Voltage And Temperature



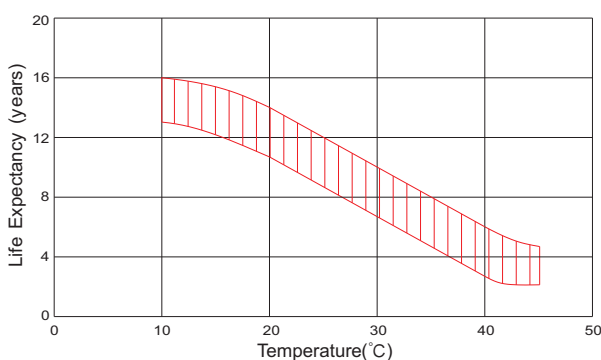
Temperature Effects On Capacity



Storage Characteristics



Effect Of Temperature On Long Term Life



Life Characteristics Of Standby Use



(Note) All above information shall be changed without prior notice, Ritar reserves the right to explain and update the latest information.