



RA12-40 (12V40Ah)

RA12-40 is a general purpose battery with 10 years design life time in float charging use. As with all Ritar batteries, all RA models are rechargeable, highly efficient, leak proof and maintenance free.

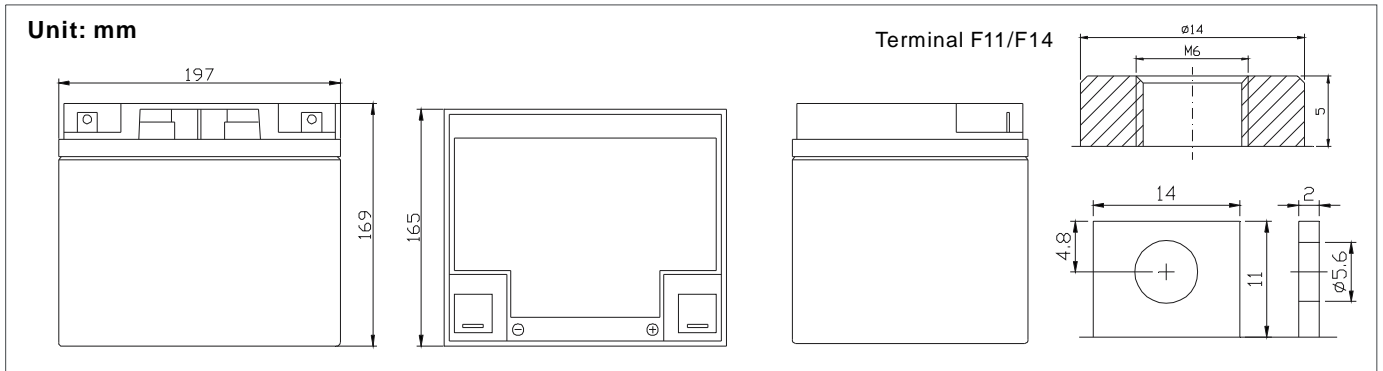


Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	40Ah@10hr-rate to 1.75V per cell @25°C
Weight	Approx. 13.5 Kg
Max. Discharge Current	200 A (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	12 A
Equalization and Cycle Service	14.4 to 15.0 VDC/unit Average at 25°C
Self Discharge	RITAR batteries can be stored for more than 6 months at 25°C. Please charge batteries before using. For higher temperature, the time interval will be shorter.
Terminal	Terminal F11/F14
Container Material	A.B.S. (UL94-HB) Flammability resistance of UL94-V1 can be available upon request.



Dimensions



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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	150	107	78	46	26.0	16.0	10.4	8.6	6.8	4.9	4.2	2.2
1.67V	146	102	76	45	25.9	15.8	10.4	8.6	6.8	4.9	4.1	2.2
1.70V	137	98	75	45	25.6	15.7	10.3	8.6	6.7	4.8	4.1	2.1
1.75V	123	91	72	44	25.4	15.6	10.3	8.5	6.6	4.8	4.0	2.1
1.80V	111	83	66	42	24.8	15.3	10.0	8.3	6.5	4.7	4.0	2.0
1.85V	97	74	59	39	23.6	14.6	9.6	7.9	6.2	4.5	3.9	1.9

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	268	196	144	87	49.6	30.6	20.1	16.6	13.1	9.5	7.8	4.1
1.67V	263	187	141	85	49.3	30.5	20.0	16.6	13.0	9.5	7.7	4.1
1.70V	248	181	139	84	49.0	30.2	19.9	16.5	13.0	9.4	7.7	4.0
1.75V	223	167	133	83	48.5	29.9	19.8	16.4	12.9	9.3	7.6	4.0
1.80V	201	152	122	79	47.3	29.5	19.3	16.0	12.7	9.1	7.5	4.0
1.85V	173	135	109	74	44.8	28.1	18.4	15.2	12.0	8.8	7.3	3.8

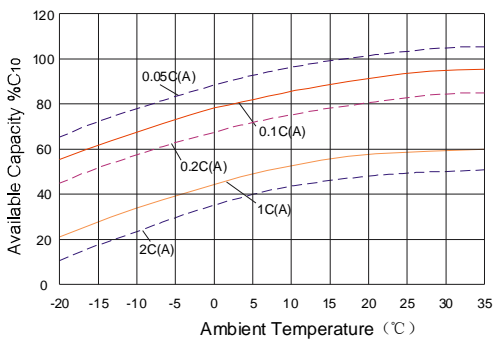
All mentioned values are average values.

RA12-40

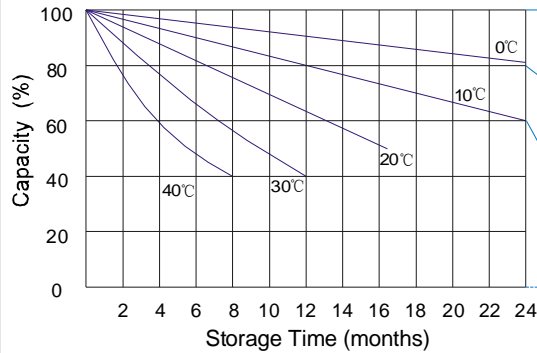
12V40Ah



Temperature effects curve



Storage characteristic



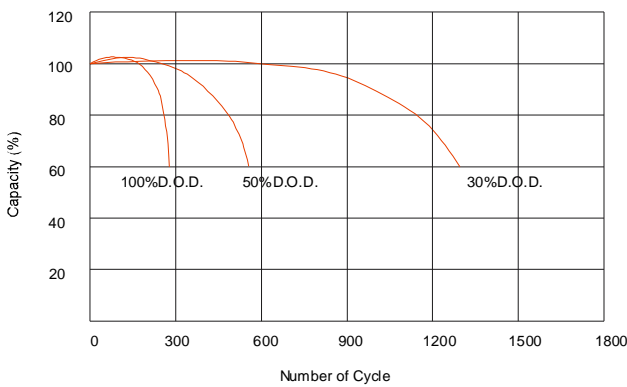
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is required)

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

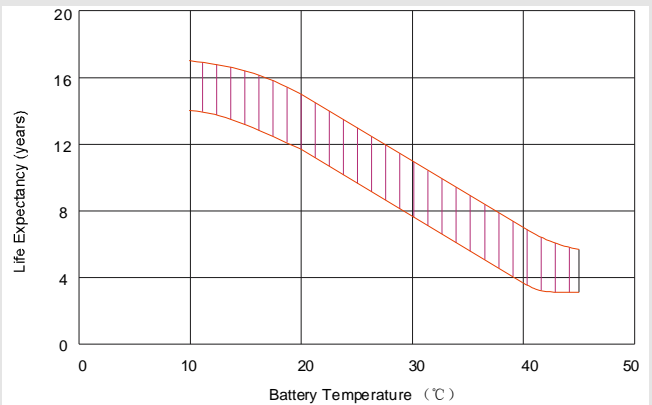
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

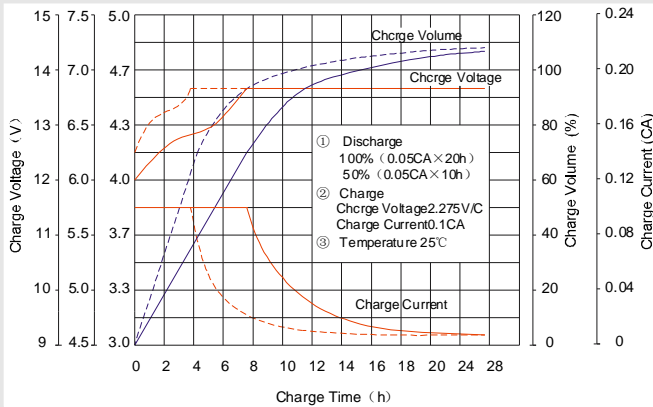
Life characteristics of cyclic use



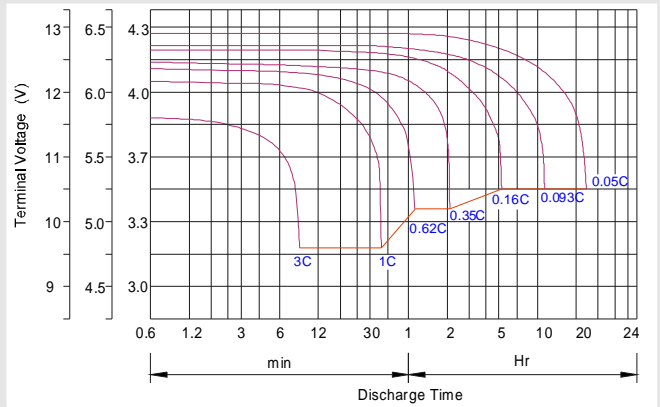
Effect of temperature on long term float life



Charge characteristic Curve for standby use



Discharge characteristic Curve



Charging Procedures(12V series)

Application	Charge Voltage (V)			Max. Charge Current
	Temperature	Set point	Allowable range	
Cycle Use	25°C	14.7	14.4~15.0	0.3C
Standby	25°C	13.7	13.6~13.8	0.3C

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 + 14.4~15.0V, 24h, Max. Current 0.3CA
Constant Current	-0.2Cx2h + 0.1CAx12h
Fast	-0.2Cx2h + 0.3CAx4h

Charging Procedures(6V series)

Application	Charge Voltage (V)			Max. Charge Current
	Temperature	Set point	Allowable range	
Cycle Use	25°C	7.35	7.25~7.45	0.3C
Standby	25°C	6.85	6.8~6.9	0.3C

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