EV12-13EC (12V13Ah)

EV (Electric Vehicle) series is specially designed for frequent deep cycle discharge. By using the specially designed active material and strong grids, the EV series battery offers reliable performance in high load situations and can deliver more than 300 cycles at 100% DOD. Suitable for mobility scooters, electric wheel chairs, golf buggies etc.

Specification

Cells Per Unit	6
Voltage Per Unit	13
Capacity	13.0Ah@20hr-rate to 1.6V per cell @25℃ 10.0Ah@2hr-rate to 1.75V per cell @25℃
Weight	Approx. 3.85 Kg (Tolerance ±4%)
Max. Discharge Current	120 A (5 sec)
Internal Resistance	Approx. 13 mΩ
Operating Temperature Range	Discharge: -20℃~60℃ Charge: 0℃~50℃ Storage: -20℃~60℃
Normal Operating Temperature Range	25℃±5℃
Float charging Voltage	13.7 to 13.9 VDC/unit Average at 25℃
Recommended Maximum Charging Current	3.6 A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25℃
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for more than 6 months at 25℃. Self-discharge ratio less than 3% per month at 25℃. Please charge batteries before using.
Terminal	Terminal F1/ F2
Constainer Material	A.B.S. UL94-HB, UL94-V0 Optional.

MH28539

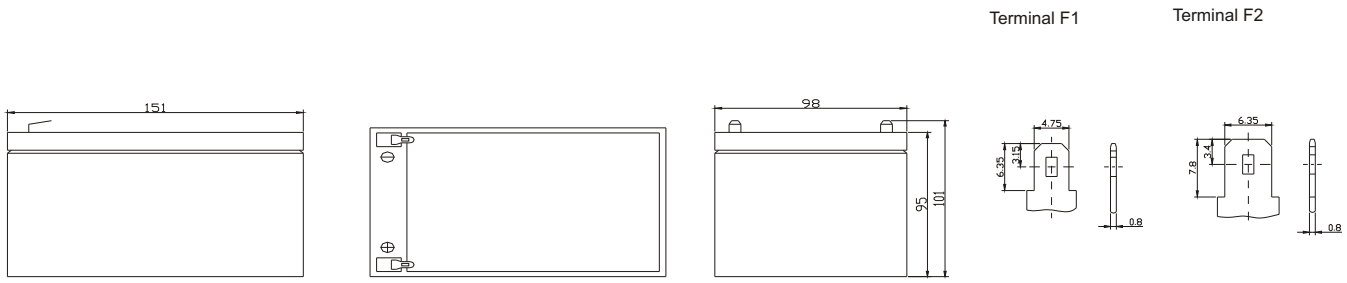
G4M20206-0910-E-16

IQNet CERTIFICATE Postcode.:421001 is in conformity with ISO 14001:2004 Standard

IQNet CERTIFICATE Postcode.:421001 is in conformity with OHSAS 18001:1999 Standard

Dimensions

Unit: mm Dimension: 151(L)×98(W)×95(H)



Constant Current Discharge Characteristics: A(25℃)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9. 60	48.00	31.92	26.40	15.74	8.920	5.320	3.641	2.808	2.312	1.513	1.298	0.664
10. 0	46.44	31.14	25.84	15.46	8.760	5.230	3.570	2.748	2.262	1.480	1.269	0.648
10. 2	44.76	30.30	25.24	15.14	8.580	5.121	3.493	2.680	2.202	1.440	1.235	0.629
10. 5	43.08	29.34	24.60	14.78	8.370	5.000	3.411	2.610	2.140	1.400	1.200	0.610
10. 8	41.40	28.38	23.88	14.34	8.130	4.875	3.320	2.540	2.076	1.359	1.164	0.591
11. 1	39.12	27.06	22.92	13.80	7.840	4.720	3.210	2.450	2.002	1.309	1.122	0.568

Constant Power Discharge Characteristics: W(25℃)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9. 60	544.1	360.7	270.3	149.3	95.86	60.02	39.83	32.48	26.71	17.00	14.85	8.102
10. 0	529.9	353.2	266.4	147.7	94.46	58.73	39.18	32.02	26.47	16.94	14.71	7.814
10. 2	504.1	339.2	262.9	146.4	93.76	58.25	38.84	31.72	26.31	16.89	14.57	7.670
10. 5	460.1	325.2	249.2	143.5	92.49	57.58	38.56	31.29	26.10	16.83	14.42	7.382
10. 8	415.1	304.2	235.7	137.9	92.49	57.11	38.10	30.24	25.98	16.76	14.12	7.082
11. 1	366.0	283.3	221.8	136.2	89.29	54.89	37.36	29.80	25.89	16.69	13.97	6.944

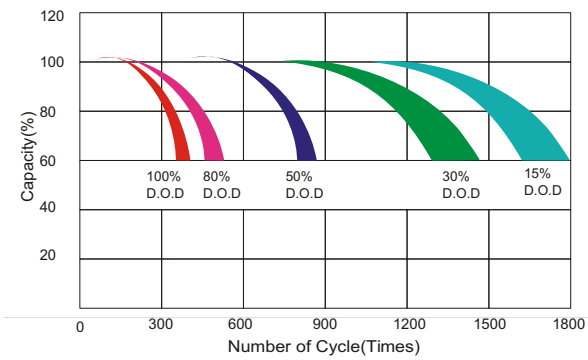
All mentioned values are average values (Tolerance ±2%).

EV12-13EC

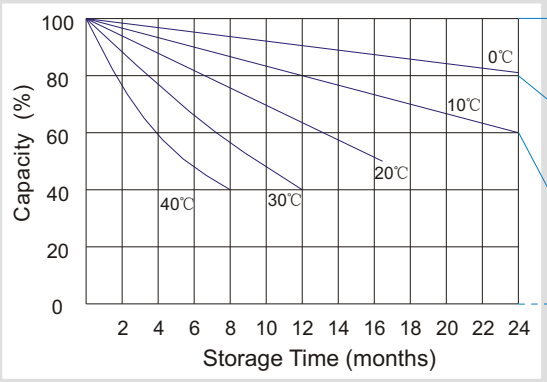
12V13Ah

RITAR®

Life characteristics of cyclic use



Storage characteristic



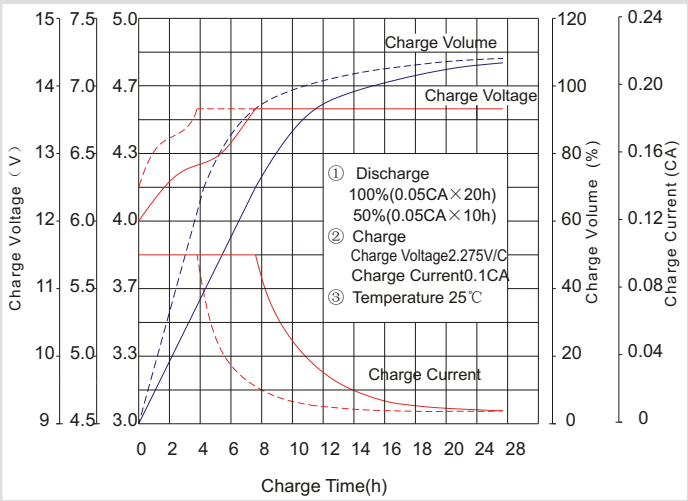
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is requires)

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

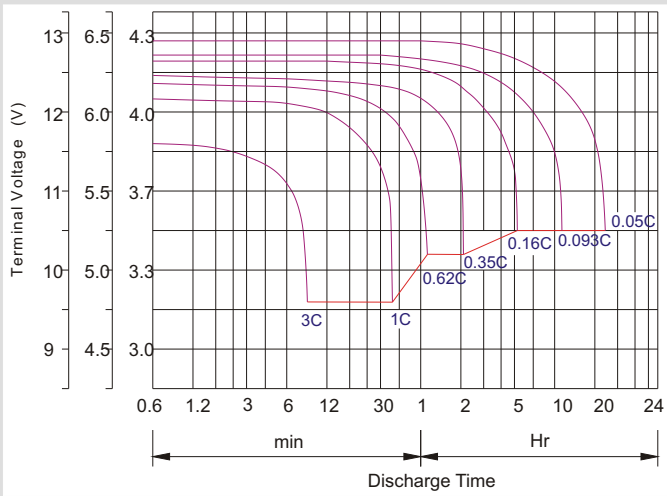
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

Charge characteristic Curve for standby use



Discharge characteristic Curve



Capacity Factors With Different Temperature

Battery Type		-20℃	-10℃	0℃	5℃	10℃	20℃	25℃	30℃	40℃	45℃
	6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
	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℃.

Charging Method:

Constant Voltage	-0.2Cx2h+2.4~2.45V/Cellx24h,Max. Current 0.3CA
Constant Current	-0.2Cx2h+0.1CA 12h
Fast	-0.2Cx2h+0.3CAx4.0h

Maintenance & Cautions

Cycle service

※ Avoid battery over discharge, especially battery sereis connection use.

※ Charged with recommend voltage, ensure battery can be full recharged.

In general, recharge capacity should be 1.1-1.15 times discharge capacity.

※ Effect of temperature on cycle charge voltage: -4mV/℃/Cell.

※ There are a number of factors that will affect the length of cyclic service.

The most significant are depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged.

Generally specking, the most important factors is depth of discharge.

SHEN ZHEN RITAR POWER CO.,LTD.

URL:www.ritarpower.com

Address: Rm405,Tower C, Huahan Building,Langshan Rd16, Nanshan District, ShenZhen, 518057, China

Tel:+86-755-33981668 Fax:86-755-8347-5180

2013 - Version 1