AGM40-12 (12V40Ah)

AGM40-12 is AGM Deep cycle battery with 10 years floating design life, specially designed for frequent cyclic discharge usage. By using strong grid and specific paste plate, it makes battery have 30% more cyclic life time than standby series. It is applicable for solar energy system, golf cart, electric wheelchair, etc..

Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	40Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 13.0 Kg
Max. Discharge Current	400 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	12A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25°C
Self Discharge	Beaut 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	Terminal F4/F11
Container Material	A.B.S. (UL94-HB)

CE

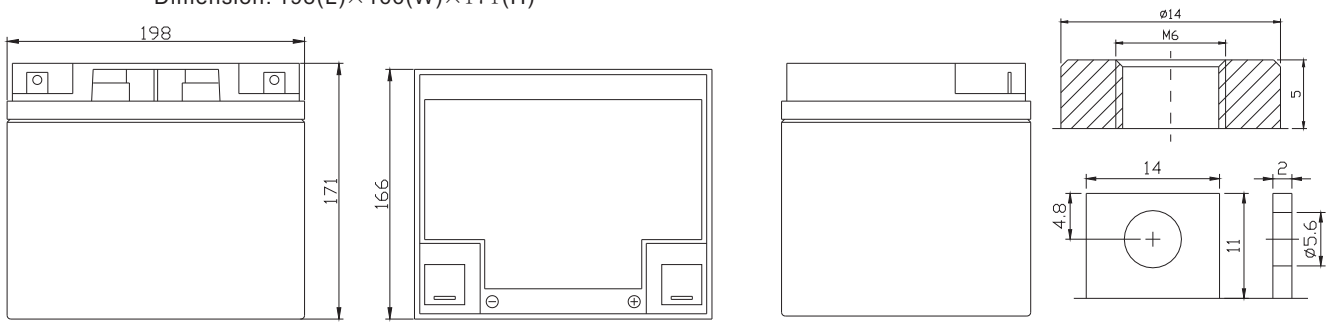
G4M20206-0910-E-16

DNV UKAS QUALITY MANAGMENT

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	131.3	96.70	75.39	45.94	25.48	15.24	10.52	8.716	7.338	5.013	4.158	2.218
10.0V	127.5	92.01	73.84	45.15	25.36	15.12	10.48	8.676	7.295	4.972	4.118	2.178
10.2V	123.8	88.77	72.68	44.31	25.13	15.01	10.40	8.636	7.252	4.931	4.078	2.138
10.5V	111.1	81.91	69.20	43.98	24.89	14.89	10.36	8.555	7.166	4.890	4.038	2.097
10.8V	100.3	74.69	63.79	43.22	24.30	14.63	10.08	8.353	7.036	4.809	3.998	2.057
11.1V	85.65	66.75	57.22	40.47	23.09	13.98	9.635	7.950	6.734	4.605	3.878	1.936

Constant Power Discharge Characteristics: W (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.6V	1386	1030	821.8	515.5	294.4	179.6	125.2	103.9	87.55	59.85	49.68	26.60
10.0V	1358	998	808.6	509.2	293.7	178.7	125.3	103.8	87.32	59.56	49.37	26.14
10.2V	1343	972.0	799.5	505.6	291.5	177.6	124.7	103.5	87.02	59.17	48.93	25.65
10.5V	1223	905.1	762.6	502.1	288.8	176.3	124.2	102.6	85.99	58.68	48.45	25.17
10.8V	1113	834.3	704.9	494.0	283.5	174.0	120.8	100.2	84.43	57.71	47.97	24.68
11.1V	978.0	754.3	634.5	465.3	271.4	167.6	115.6	95.39	80.81	55.26	46.53	23.23

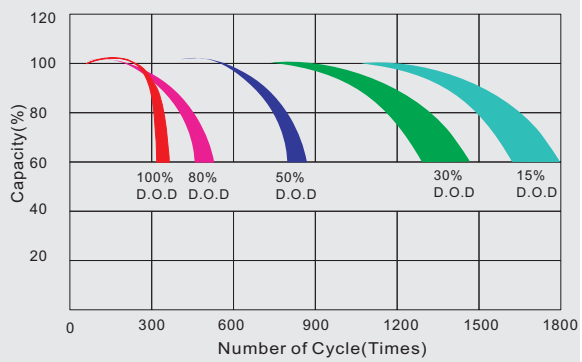
All mentioned values are average values.

AGM40-12

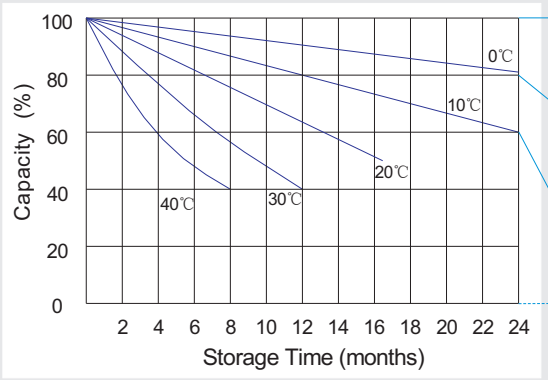
12V40Ah

Beaut®

Life characteristics of cyclic use



Storage characteristic



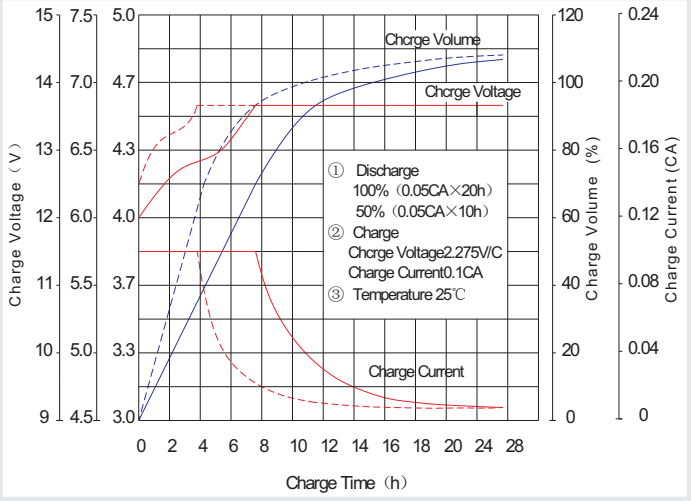
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is requires)

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

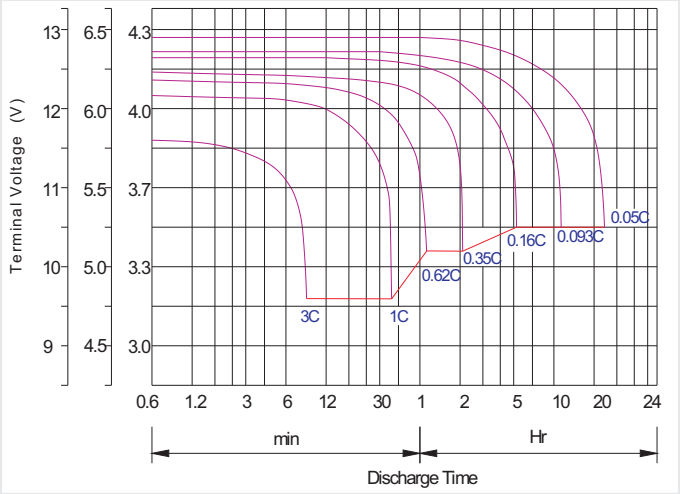
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

Charge characteristic curve for cyclic use



Discharge characteristic curve



Capacity Factors With Different Temperature

Battery Type		-20℃	-10℃	0℃	5℃	10℃	20℃	25℃	30℃	40℃	45℃
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

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.

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