



DC280-12 (12V280Ah)

DC (Deep Cycle) series is specially designed for frequent cyclic discharge. By using strong grids and specially designed active material, the DC series battery offers 30% more cyclic life than the standby series. It is suitable for solar energy systems, marine and RV etc.



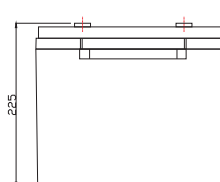
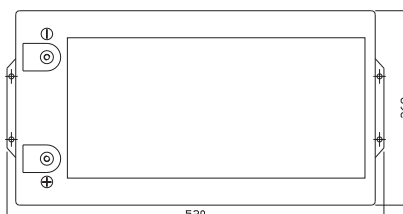
Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	280Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 74.0 Kg (Tolerance ± 1.5%)
Max. Discharge Current	2600 A (5 sec)
Internal Resistance	Approx. 3.5 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	78 A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25°C
Self Discharge	VMF 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 F14
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

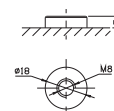


Dimensions

Unit: mm Dimension: 520(L) × 268 (W) × 220(H)



Terminal F14



Constant Current Discharge Characteristics: A (25°C)

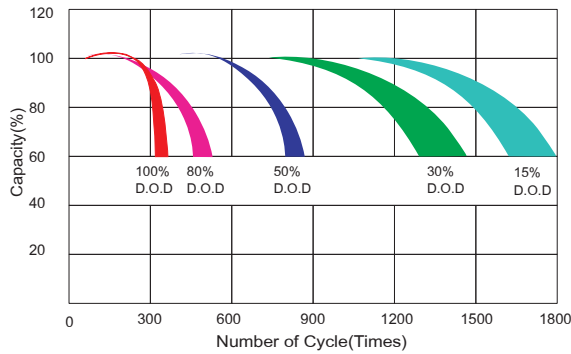
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	740.5	554.7	448.1	261.2	162.3	100.2	68.09	54.90	45.58	30.02	27.06	14.32
10.0V	719.1	527.8	438.9	257.9	160.1	98.18	66.83	54.12	45.17	29.90	26.79	14.06
10.2V	697.8	509.2	432.0	253.9	158.6	97.14	66.24	53.58	44.87	29.63	26.53	13.79
10.5V	626.6	469.9	411.3	246.9	156.7	95.87	65.65	52.79	44.50	29.37	26.26	13.52
10.8V	565.6	428.5	379.2	238.8	154.5	95.08	64.88	50.98	44.28	29.25	26.02	13.38
11.1V	482.9	382.9	340.1	229.7	150.8	91.25	63.61	50.25	43.96	29.01	25.72	12.84

Constant Power Discharge Characteristics: W (25°C)

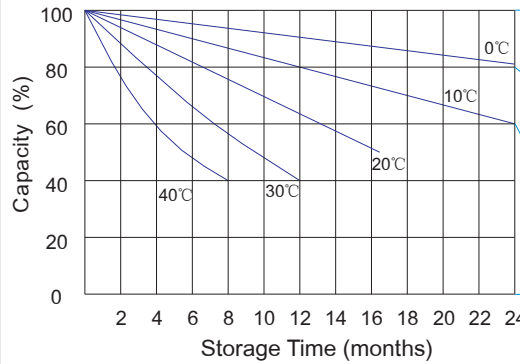
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	7660	5908	4929	2990	1881	1174	802	657.2	546.0	359.5	324.4	172.5
10.0V	7509	5727	4850	2959	1863	1160	790	647.9	541.1	358.1	321.9	169.5
10.2V	7423	5576	4795	2934	1852	1152	786	641.9	537.8	355.4	319.0	166.4
10.5V	6758	5192	4574	2874	1841	1137	780	633.2	533.5	352.4	315.9	163.3
10.8V	6155	4786	4228	2806	1817	1129	771	611.8	531.1	350.9	312.8	161.7
11.1V	5406	4327	3806	2729	1790	1086	758	603.1	529.1	348.4	309.4	155.9

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

Life characteristics of cyclic use



Storage characteristic



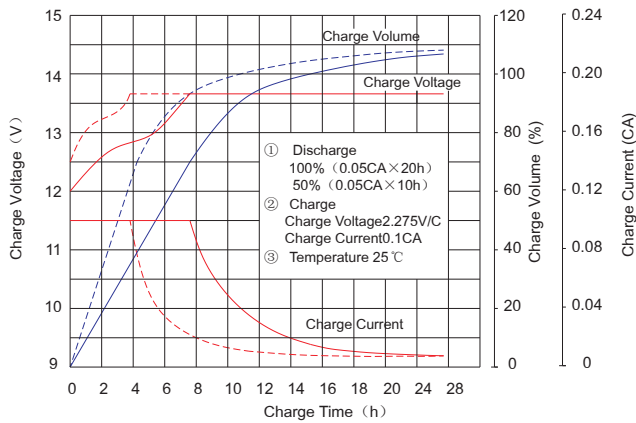
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is requires)

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

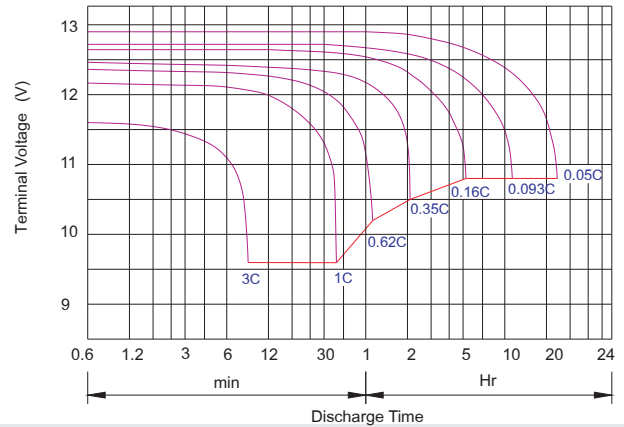
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

Charge characteristic Curve for standby use



Discharge characteristic Curve



Capacity Factors With Different Temperature

Battery Type		-20°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

Maintenance & Cautions

Cycle service

- ※ Avoid battery over discharge, especially battery series 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/°C/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 speaking, the most important factors is depth of discharge.

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

Constant Voltage	-0.2Cx2h+14.4-14.7Vx24h, Max. Current 0.3C
Constant Current	-0.2Cx2h+0.1Cx7h+0.05Cx4h
Fast	-0.2Cx2h+0.3Cx3h

Bolt	M5	M6	M8
Terminal	F3 F4 F13 F18 T25 T26	F8 F11 F12-1 F15	F5 F9 F10 F12 F14 F16
Torque	6~7N·m	8~10N·m	10~12N·m