



# CB12-85 (12V85Ah)

Centennial AGM batteries are a perfect representation of stable quality and high reliability batteries. Centennial's AGM sealed construction allows for the battery to provide long life cycles. At the same time, being a maintenance-free product with a low pressure venting system, makes it perfect in standby applications. The ability to deliver high currents without significant drops in voltage is what makes Centennial competitively exclusive in guaranteeing customer satisfaction.



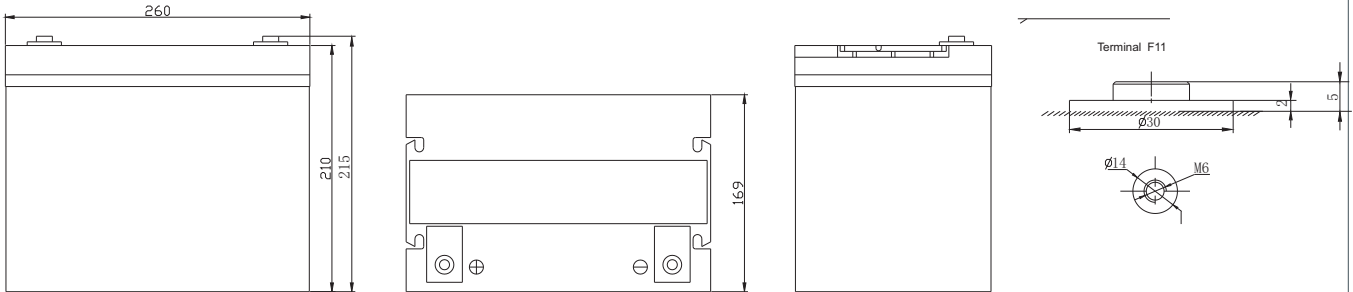
## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	80Ah@10hr-rate to 1.80V per cell @25°C 85Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 24.8 Kgs /54.67 Lbs (Tolerance ±2%)
Max. Discharge Current	800A (5 sec)
Internal Resistance	Approx. 5.5 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	24 A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25°C
Self Discharge	RITAR 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 F11
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



## Dimensions

Unit: mm Dimension: 260(L)\*169(w)\*210(H)\*215(TH) MM /10.24(L)\*6.65(w)\*8.27(H)\*8.46(TH) INCH



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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	280.1	206.2	153.8	80.38	49.93	30.83	20.95	16.89	14.02	9.24	8.32	4.45
10.0V	272.0	196.2	150.7	79.35	49.27	30.21	20.56	16.65	13.90	9.20	8.24	4.36
10.2V	264.0	189.3	148.3	78.14	48.80	29.89	20.38	16.49	13.81	9.12	8.16	4.28
10.5V	237.0	174.7	141.2	75.98	48.20	29.50	20.20	16.24	13.69	9.04	8.08	4.25
10.8V	213.9	159.3	130.2	73.47	47.53	29.26	19.96	15.69	13.62	9.00	8.01	4.16
11.1V	182.7	142.4	116.8	70.68	46.41	28.08	19.57	15.46	13.53	8.93	7.91	3.99

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

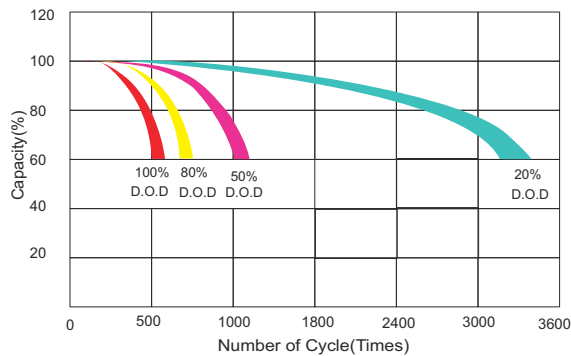
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	2955	2196	1677	920.1	578.7	361.3	246.7	202.2	168.0	110.6	99.83	53.45
10.0V	2897	2129	1650	910.5	573.4	356.9	243.0	199.4	166.5	110.2	99.04	52.36
10.2V	2864	2073	1632	902.6	570.0	354.3	241.9	197.5	165.5	109.4	98.16	51.39
10.5V	2607	1930	1556	884.2	566.3	349.8	240.0	194.8	164.2	108.4	97.20	51.00
10.8V	2375	1779	1439	863.3	559.1	347.2	237.3	188.3	163.4	108.0	96.24	49.93
11.1V	2086	1609	1295	839.6	550.7	334.2	233.3	185.6	162.8	107.2	95.19	47.87

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

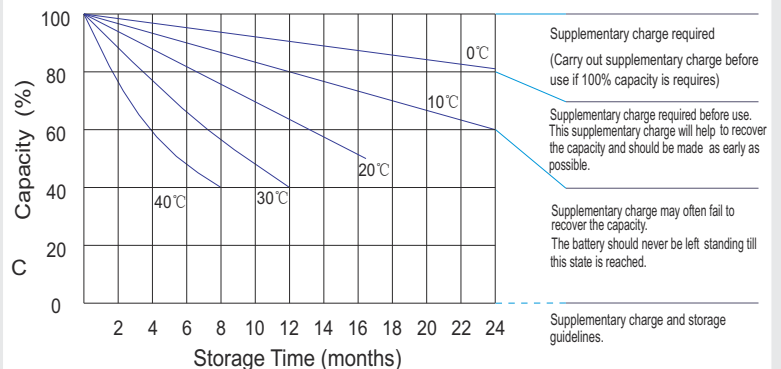


**CB12-85**  
(12V85Ah)

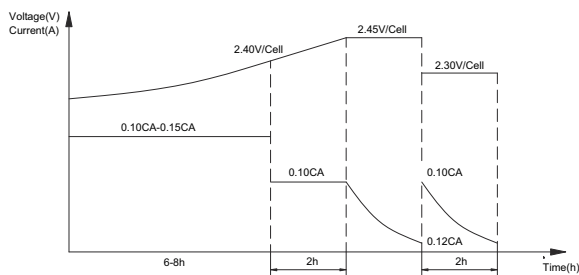
**Life characteristics of cyclic use (Based on testing @2hr)**



**Storage characteristic**

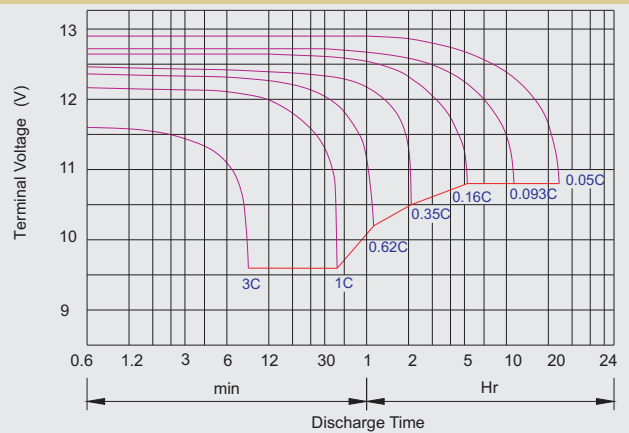


**Charge characteristic Curve for cyclic use**



Stage 1: 0.15CA constant current to 2.40V/cell(max. 8h)  
 Stage 2: 0.1CA constant current to 2.45V/cell (max. 2h)  
 Stage 3: 0.1CA\*2.45V/cell constant voltage to 0.012CA  
 Stage 4: 0.1CA\*2.30V/cell\*2h

**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 D ischarge 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 0.3C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.3Cx4h

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

**Maintenance & Cautions**

**Cycle Service**

- ▶ Avoid battery overcharge, especially in series connection use.
- ▶ Charge with recommended voltage.Ensure battery fully recharges. In general, recharge capacity should be 1.1-1.15 times discharge capacity.
- ▶ Effect of temperature on cycle charge voltage:-4mV/°C/Cell
- ▶ The length of cycle service will be affected by depth of discharge, ambient temperature discharge rate, and the manner in which the battery is recharged. Generally speaking, the most important factor is depth of discharge.

**Float Service:**

- ▶ Every month, recommend inspection of every battery's voltage.
  - ▶ Every three months, recommend a one time equalization charge.
- Equalization charge method:
- Discharge-100% rate capacity discharge.
  - Charge-Max current 0.3C, constant voltage 2.4-2.45V/Cell charge 24h.
  - ▶ Effect of temperature on float charge voltage: -3mV/°C/Cell.
  - ▶ Length of service life will be affected by the number of discharge cycles depth of discharge, ambient temperature, and charging voltage.