



# CB645 (6V4.5Ah)



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

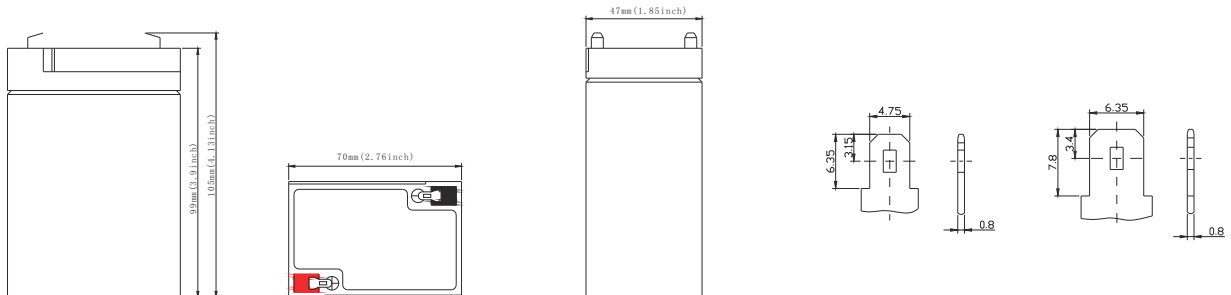
## Specification

Cells Per Unit	3
Voltage Per Unit	6
Capacity	4.5 Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 0.72 Kg/1.59 Lbs(Tolerance ±5%)
Max. Discharge Current	45 A (5 sec)
Internal Resistance	Approx. 23 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	6.85 to 6.95 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	1.35 A
Equalization and Cycle Service	7.3t to 7.4 VDC/unit Average at 25°C
Self Discharge	CB 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	Faston Tab 187(F1)
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



## Dimensions

Unit: mm Dimension: 70(L)×47(W)(H)×99(H)×105(TH)(mm)/ 2.76(L)×1.85(W)×3.9(H)×4.13(TH)(inch)



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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
4.80V	17.75	11.64	8.67	4.61	2.92	1.79	1.18	0.960	0.789	0.520	0.450	0.241
5.00V	17.11	11.35	8.39	4.55	2.89	1.75	1.16	0.946	0.782	0.518	0.445	0.239
5.10V	16.10	10.78	8.16	4.48	2.86	1.73	1.15	0.937	0.777	0.513	0.438	0.232
5.25V	14.47	10.08	7.69	4.36	2.82	1.71	1.14	0.923	0.770	0.508	0.436	0.227
5.40V	12.97	9.40	7.26	4.22	2.78	1.70	1.12	0.891	0.766	0.506	0.429	0.218
5.55V	11.35	8.62	6.70	4.06	2.72	1.63	1.10	0.878	0.763	0.502	0.422	0.215

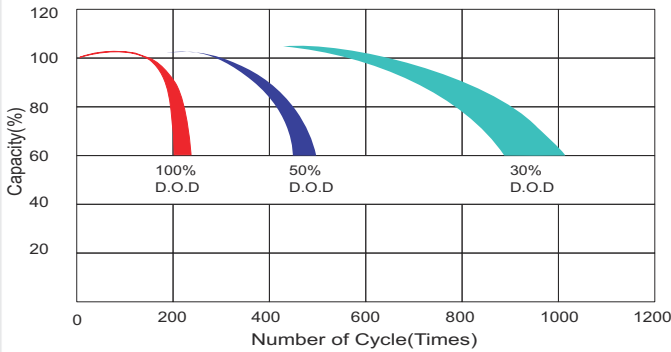
### Constant Power Discharge Characteristics: W(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
4.80V	96.25	63.80	47.82	26.41	17.48	10.54	7.045	5.745	4.725	3.111	2.694	1.445
5.00V	93.74	62.48	47.13	26.13	17.22	10.40	6.930	5.664	4.683	3.099	2.669	1.433
5.10V	89.16	60.00	46.51	25.90	17.10	10.31	6.870	5.611	4.654	3.076	2.635	1.396
5.25V	81.38	57.53	44.09	25.38	16.87	10.20	6.820	5.535	4.617	3.050	2.616	1.373
5.40V	73.42	53.82	41.65	24.77	16.65	10.12	6.740	5.348	4.596	3.036	2.577	1.317
5.55V	64.75	50.10	39.23	24.10	16.28	9.77	6.609	5.271	4.579	3.015	2.538	1.297

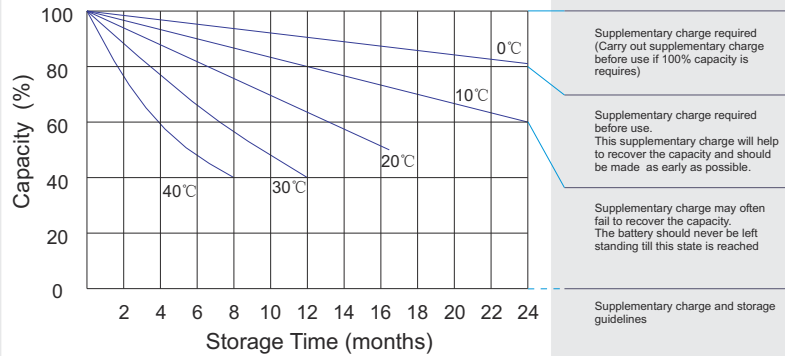
All mentioned values are average values (Tolerance ±2%).



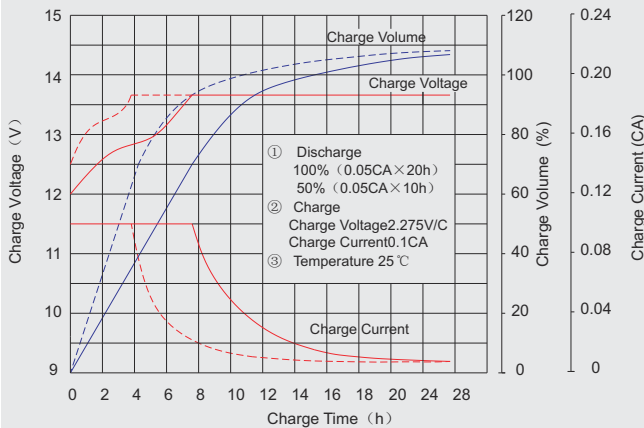
### Life characteristics of cyclic use



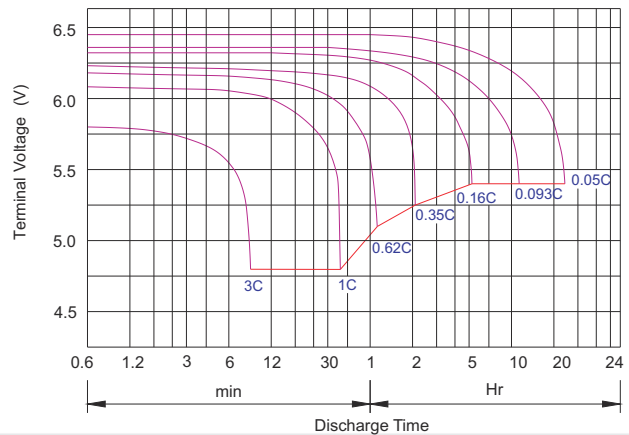
### Storage characteristic



### 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 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