



## US 31DC XC2

### • DEEP CYCLE

- BCI Group 31, 12V
- Reserve Capacity [Ah@20hr rate]: 130
- Reserve Capacity [Ah@100hr rate]: 144
- Energy [kWh]: 1.73
- Weight: 66 lbs.
- Length: 13 in (330 mm)
- Width: 6.75 in (171 mm)
- Height: 9.63 in (243 mm)
- DUAL
- CAP



U.S. Battery's Flooded Lead Acid batteries are engineered and proven to provide the fastest cycle-up to full rated capacity, and have the highest total energy delivered over the life of the battery.

**Building the best Flooded Lead Acid Battery on the market comes from a better battery cell design, hand-made construction, and attention to details.**

Made in America, U.S. Battery FLA batteries utilize the company's exclusive XC2™ formulation and Diamond Plate Technology®, allowing them to reach peak capacity in fewer cycles, higher total energy delivery, and an extended battery life. The high charge efficiency design also meets new California Energy Commission regulations for combined charger/battery charge efficiency. And because of U.S. Battery's unique design and variety of sizes in 6, 8 and 12-volt applications, the FLA batteries offer the most compatibility with the wide range of chargers used in the field. This is why U.S. Battery's proven manufacturing processes, along with its reliable and dependable service, continues to be the most trusted world-wide brand for more than 88 years.





# DATA SHEET

MODEL US 31DC XC2  
 VOLTAGE 12V  
 CAPACITY 130Ah @ 20Hr  
 MATERIAL Polypropylene / Heat Sealed  
 BATTERY TYPE Deep Cycle Flooded / Wet Lead Acid Battery

12V

## PRODUCT + PHYSICAL SPECIFICATIONS

BCI Group Size	Type	Voltage	Cell(s)	Terminal Type <sup>6</sup>	Dimensions <sup>c</sup> Inches (mm)			Weight Lbs. (kg)
					Length	Width	Height <sup>f</sup>	
31	US 31DC XC2	12	6	DUAL	13 (330)	6.75 (171)	9.63 (243)	66 (30)

## ELECTRICAL SPECIFICATIONS

Cranking Performance		Capacity <sup>A</sup> Minutes			Amp-Hr								
C.C.A. <sup>D</sup> @ 0°F (-18°C)	C.A. <sup>E</sup> @ 32°F (0°C)	@ 25 Amps	@ 56 Amps	@ 75 Amps	1-Hr	2-Hr	5-Hr	6-Hr	10-Hr	20-Hr	48-Hr	72-Hr	100-Hr
—	—	225	84	59	74	84	99	103	114	130	138	141	144

## CHARGING INSTRUCTIONS

Following is the charging recommendation and charging profile using 2 stage chargers for US Battery deep cycle products.

\*Equalization and float charge modes are not considered to be one of the stages in a charging profile.

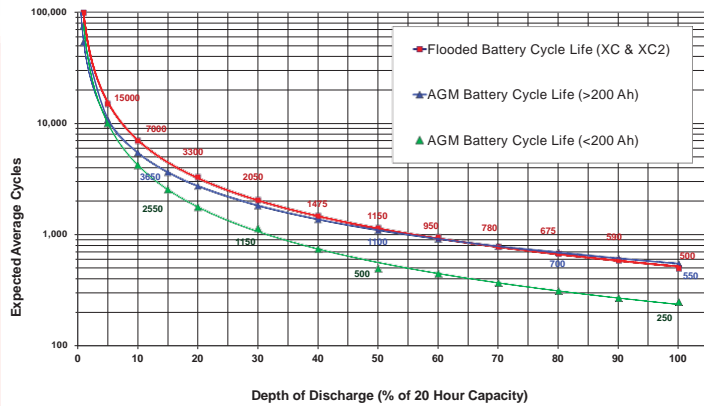
- Bulk Charge** Constant current @ ~10% of C/20 Ah in amps to 2.45+/-0.05 volts per cell e.g. 7.35 volts +/-0.15 volts per 6 volt battery)
- Absorption Charge** Constant voltage (2.45+/-0.05 vpc) to 3% of C/20 Ah in amps then hold for 2-3 hours and terminate charge Charge termination can be by maximum time (2-4 hr) or dV/dt (4 mv/cell per hour)
  - (Optional Float Charge) Constant voltage 2.17 vpc (6.51 volts per 6 volt battery) for unlimited time
  - Equalization Charge Constant voltage (2.55+/-0.05 vpc) extended for 1-3 hours after normal charge cycle (repeat every 30 days)

**Notes:** Charge time from full discharge is 9-12 hours.  
 Absorption charge time is determined by the battery but will usually be ~3 hours at 2.45 volts per cell.  
 Float time is unlimited at 2.17 volts per cell.  
 Specific gravity at full charge is 1.270 minimum

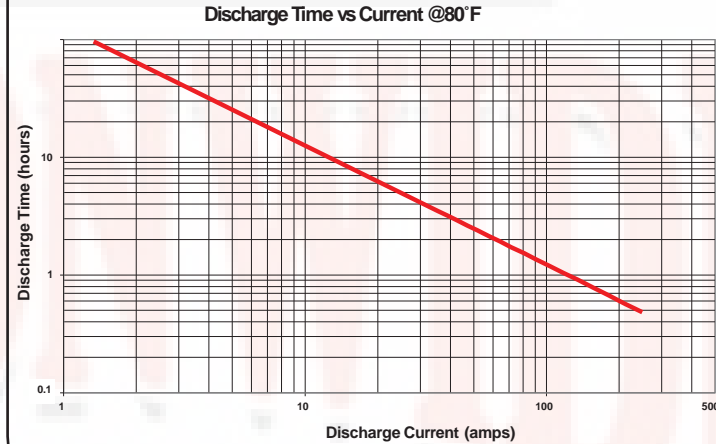
## TERMINAL OPTIONS:



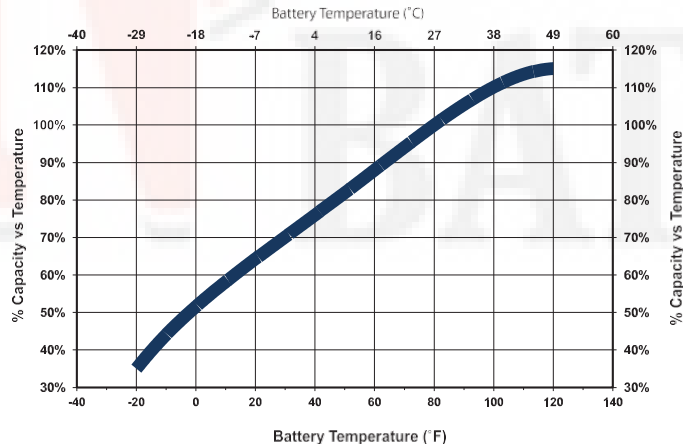
## EXPECTED LIFE CYCLES VS. DOD (XC, XC2 & AGM)



## US 31DC XC2 DISCHARGE TIME VS CURRENT @80° F



## BATTERY % CAPACITY VS TEMP



## U.S. Battery Operating Temperature Guidelines

**For charging,** we recommend staying within 0°F to 120°F (-18 to 49°C) to avoid charging frozen batteries at low temperature or going into thermal runaway at high temperature.

**For discharging,** we recommend -20°F to 120°F (-29 to 49°C). Batteries discharged at temperatures below 32°F (0°C) should be re-charged immediately to avoid freezing. Batteries discharged at temperatures above 120°F (49°C) should be allowed to cool before recharging. Extreme temperatures can substantially affect battery performance and charging. Cold reduces battery capacity and retards charging. Heat increases water usage and can result in overcharging. Very high temperatures can cause "thermal run-away" which may lead to an explosion or fire. If extreme temperature is an unavoidable part of an application, consult a battery/charger specialist about ways to deal with the problem.

**Battery temperature adjustment:** Reduce the voltage by 0.028 per cell for every 10F above 80F, increase by the same amount for temperatures below 80°F.

Deep cycle batteries need to be equalized periodically. Equalizing is an extended, low current charge performed after the normal charge cycle. This extra charge helps keep all cells in balance. Actively used batteries should be equalized once per month.

Manually timed chargers should have the charge time extended approximately 3 hrs. Automatically controlled chargers should be unplugged and reconnected after completing a charge