

# CB-650 DATA BUOY

## QUICK START GUIDE



**Figure 1:** NexSens CB-650 Data Buoy

### Overview

The CB-650 data buoy is constructed of an inner core of cross-linked polyethylene foam with a polyurea coating that provides 650 lb. of gross buoyancy. A stainless steel internal frame provides topside lifting eyes and subsurface mooring eyes for single- and multi-point mooring. An integrated data well accommodates internal batteries, which are recharged by (3) 32-watt solar panels mounted on the buoy tower. The data well lid is available as a NexSens X2-CB buoy-mounted data logger or as a standard lid with included pass-through fittings.

### What's Included?

- (1) Buoy hull with data well, 650 lb. buoyancy
- (1) Buoy tower
- (3) 32W solar panels
- (3) 4" pass-through sensor pipes
- (3) Top-side lifting eyes
- (3) Bottom-side mooring eyes
- (1) Cage-L Instrument cage
- (1) CB-CCA anti-rotation cage clamp

### Important Specifications

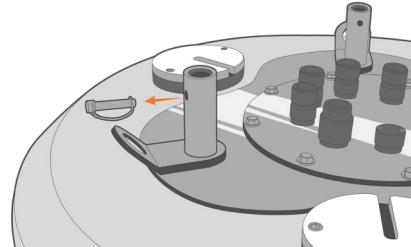
- Gross Buoyancy: 650 lbs. (294.84 kg)
- Weight: 215 lbs. (97.52 kg)
- Data Well Dimensions: 10.3" (26.16 cm) inside diameter; 21.5" (54.61 cm) tall

### Instrument Cage Installation

Follow the included CB-CCA quick start guide to attach the instrument cage to the buoy frame.

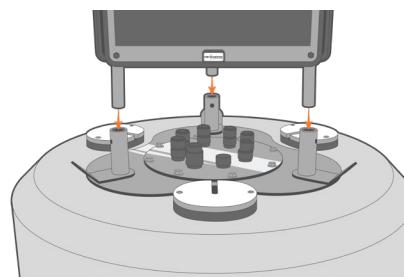
### Solar Tower Connection

- 1 Remove the included clevis pins from the (3) tower mount hubs.



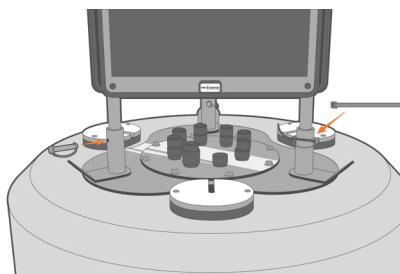
**Figure 2:** Clevis pin removal.

- 2 Insert the tower legs into the tower mount hubs.



**Figure 3:** Solar tower connection.

- 3 Re-install the clevis pins to secure the solar tower.
  - a. It is recommended to apply a zip tie through the loop closure for added security.



**Figure 4:** Installed tower.

## **Mooring Configurations**

To develop an effective mooring strategy, a variety of application-specific criteria (water level fluctuations, currents and wave action, debris loads, etc.) must be thoroughly reviewed prior to deployment. NexSens does not endorse any particular mooring strategy for any specific application.

- a. For more information on mooring configurations, follow the link provided:

[nexsens.com/mooringdb](http://nexsens.com/mooringdb)

## **Safe Deployment**

**Warning:** Always follow safe marine and boating practices. Heavy anchors, ballast weights, and chain require careful maneuvering. Small boats with limited lifting equipment and boat clutter can be unsafe. Care must be taken during deployment to maintain a clean and safe environment.

- a. For more information regarding safe deployment practices and tips, follow the link provided:

[nexsens.com/deptip](http://nexsens.com/deptip)

## **Saltwater Deployment**

Sacrificial zinc anodes should be used whenever a buoy is deployed in a saltwater environment to prevent corrosion. These zinc anodes must be inspected and replaced as needed.

- a. For more information regarding the use of zinc anodes, follow the link provided:

[nexsens.com/usecb](http://nexsens.com/usecb)

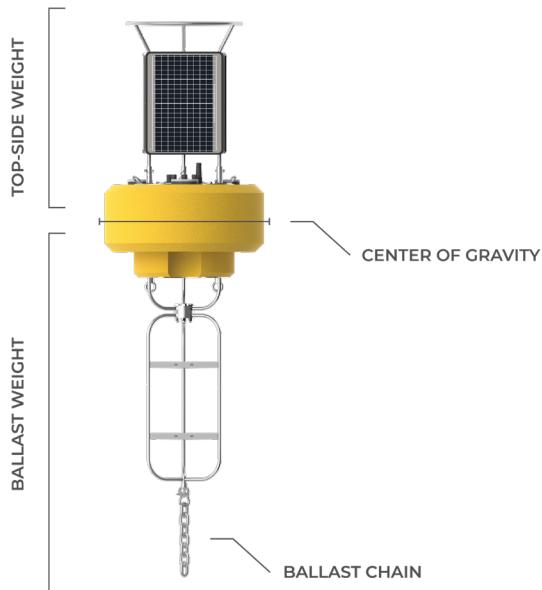
## **Ballast Weight & Stability**

To prevent overturning of a CB-650 buoy system and to ensure that it is stable in the water, additional ballast weight may be needed. The buoy's center of gravity is near the water surface without instruments connected. Any weight added above the water surface must be appropriately counterbalanced by adding ballast weight below the surface.

- a. For more information regarding top-side and ballast weight, follow the link provided:

[nexsens.com/dbbwstab](http://nexsens.com/dbbwstab)

*The buoy data well is not rated for submersion, so proper ballast weight is critical to ensure that the buoy does not overturn, including when the buoy is subjected to additional loading (e.g. high wind/waves, periodic snow/ice loads, etc.).*



**Figure 5:** CB-650 buoyancy diagram.

For additional information, please reference the CB-650 resource library on the NexSens Knowledge Base.

[nexsens.com/cb650kb](http://nexsens.com/cb650kb)