

# CB-50 DATA BUOY

## QUICK START GUIDE

**IMPORTANT - BEFORE FIELD DEPLOYMENT:** Completely configure and test the internal logging and telemetry of your sensor or data logger. Confirm that the batteries will provide adequate power for the duration of the deployment. Ensure that all external sensor ports and battery compartments have a watertight seal.

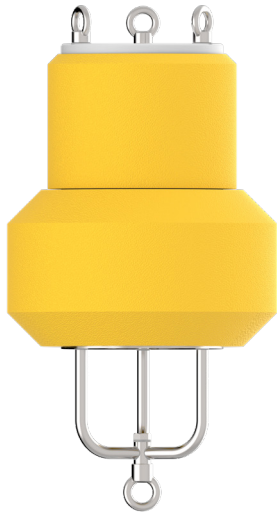


Figure 1: NexSens CB-50 Data Buoy

### Overview

The CB-50 data buoy is designed for accommodating the X2-SDL data logger, which is compatible with a multitude of environmental sensors. The 5.5" ID center hole can also house user-supplied electronics. A removable topside foam tower supports solar marine lights and protects electronics installed in the buoy frame. The buoy has top-side lifting eyes and a subsurface mooring eye for connection of single-point mooring systems.

### What's Included?

- (1) Buoy hull
- (3) Top-side lifting eyes

### Important Specifications

*Center Hole Dimension:* 5.5" (13.97 cm) inside diameter.

*Weight:* 35 lbs. (15.87 kg) no payload; ~50 lbs. (22.68 kg) with X2-SDL and solar marine light.

*Buoyancy:* 50 lbs. (22.68 kg).

### X2-SDL Installation

- ① Loosen and remove the three top-facing eye nuts and threaded rod assemblies.
  - a. Remove the top white plate.

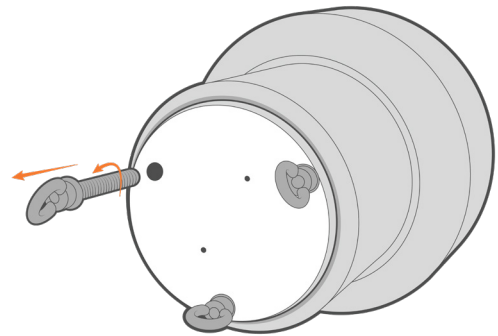


Figure 2: Remove the top white plate.

- ② Lift the top foam tower off of the buoy base.

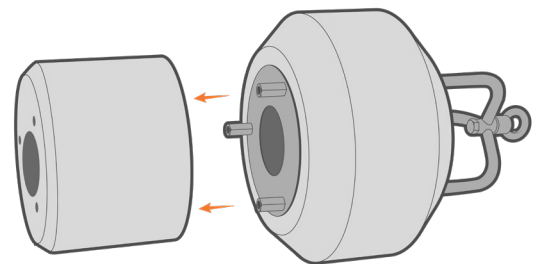
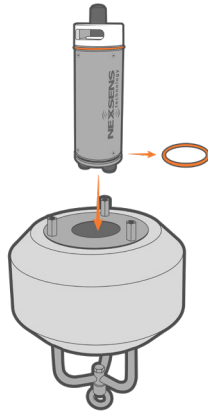


Figure 3: Remove the top foam tower.

- 3 Remove the orange exterior O-ring from the bottom of the X2-SDL.
  - a. Insert the X2-SDL into the data well.
  - b. Push down until the top exterior orange O-ring rests against the data well plate.



**Figure 4:** Insert the X2-SDL into the buoy well.

- 4 Re-install the foam top and white plate.
  - a. Secure them in place by inserting and tightening the three top-facing threaded rod assemblies.

## 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](https://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.

## Ballast Weight & Stability

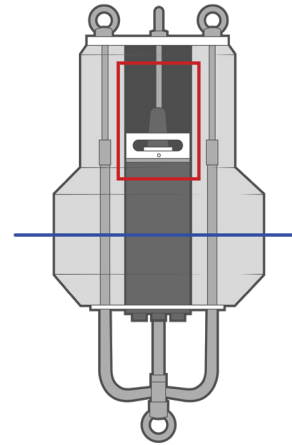
An optional instrument cage mounted to the buoy frame can help stabilize the buoy and provides a deeper location for mounting additional weight. If needed, a 1/2" galvanized chain (~2.3 lb/ft) or other weight may be added to the bottom of the cage or buoy frame. For single-point mooring configurations, mooring chain and lines connected to the bottom of the cage or frame may provide adequate ballast.

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

• [nexsens.com/dbbwstab](https://nexsens.com/dbbwstab)

## CB-50 Buoyancy

The upper float of the CB-50 should not be submerged for extended periods of time. The SDL communication bulkhead (outlined in red) should be oriented above the water line (blue line) under normal deployment conditions. Excess ballast weight may result in the submersion of the SDL bulkhead and a subsequent decline in both remote communication performance and life of the data logger.



**Figure 5:** CB-50 buoyancy diagram.

For additional information, please reference the CB-50 Resource Library on the NexSens Knowledge Base.

[nexsens.com/cb50kb](https://nexsens.com/cb50kb)