

# NexSens CB-1500 Coastal Data Buoy

## Overview

NexSens coastal data buoys are designed with indestructible stainless steel frames, advanced crosslinked polyethylene foam, and polyurea coated hulls. These buoys can withstand rough seas while providing a reliable platform for demanding data collection applications.

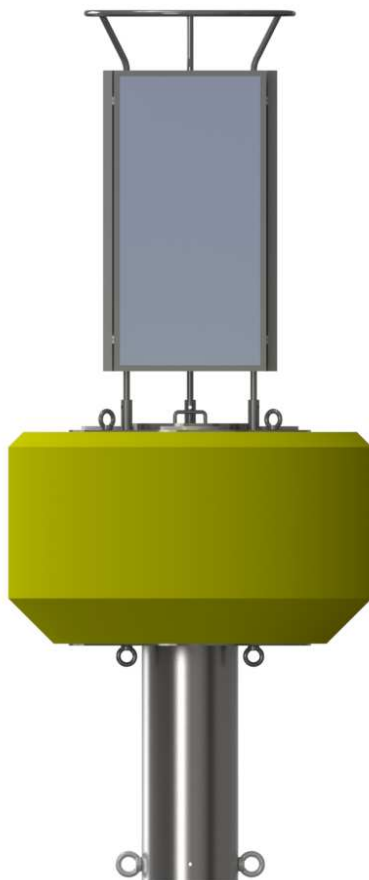


Figure 1: CB-1500 Coastal Data Buoy

## Buoy Lid Connections

	Color	Device	Connection
1	Red	Solar	Battery Terminals (+/-)
2	Yellow	Battery	Battery Terminals (+/-)
3	Black	Antenna	SDL Top (Splitter)
4	Green	Sonde	SDL P1 (Splitter, side)
5	Blue	Doppler	SDL P1 (Splitter, top)
6	White	Wave	SDL T
7	Orange	T-String	SDL P0 (T-Boost)
8	Black	Vent	Vent Tube
9	Yellow	Power On	SDL D
10	Black	Lufft/USB	SDL Top (Splitter, side)

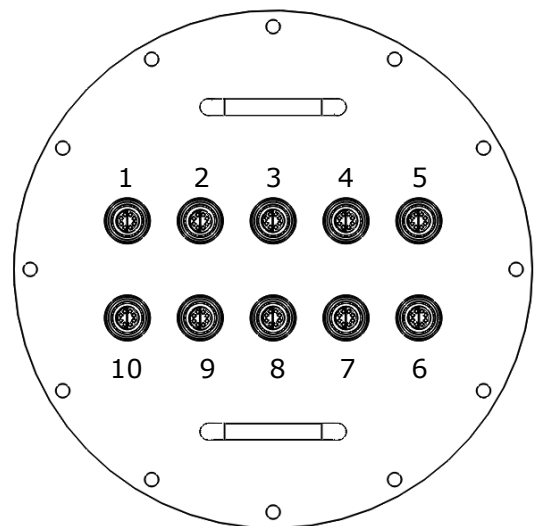


Figure 2: CB-1500 Lid (Top View)

## Getting Started

The CB-1500 is shipped preconfigured, ready for sensor connection and deployment. It is always best to completely assemble and test the buoy system on shore. **Only deploy the buoy when communication has been established and proper function demonstrated.**

1. Power the buoy by connecting ports 2 and 9 with the included short jumper cable. Always check for o-rings on the plug and

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- in the receptacle when making any UW cable connection.
2. Ping the modem to confirm cellular connection. Do this using a windows command prompt from a computer with internet access. (Click **Start | Run**. Type "cmd". Click **OK**). Type "ping" followed by a space and the IP address of the modem. Communication is confirmed if a reply is received. "Request timed out." indicates no communication. Note that it may take several minutes for the modem to latch onto a cellular signal after power-up.
3. Connect all sensors to the designated ports (following color coding and the connections table).
4. Install and register iChart.
5. Open iChart software.
6. If a pre-configured .icr file was included with the system, place in the iChart Users folder. Access the folder by selecting **Help | Open Users Folder** from the iChart menu.
7. Open the .icr project file and allow the system to run for a few hours to a few days. This will confirm proper function and establish some baseline data.
8. For further instructions on iChart use, refer to the manual.
6. Select "iSIC (Direct connect)" as the Connection type.
7. Uncheck the "Use iSIC" box.
8. Click **Connect**.
9. Plug the other end of the USB cable into Port 10 on the buoy lid.
10. After a ~15 second delay "NexSens iSIC" appear on the terminal window, press the **escape** button followed by **485**. (This must be done within in 5 seconds of the message appearing).
11. The following message will appear:

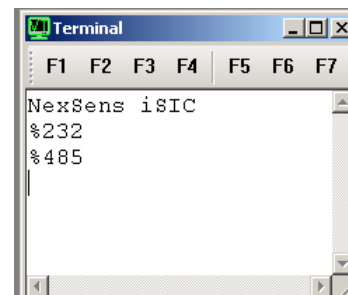


Figure 3: Terminal Output

12. Close the terminal window. The iSIC will now communicate in RS-485 until power is cycled.

## Direct Connect

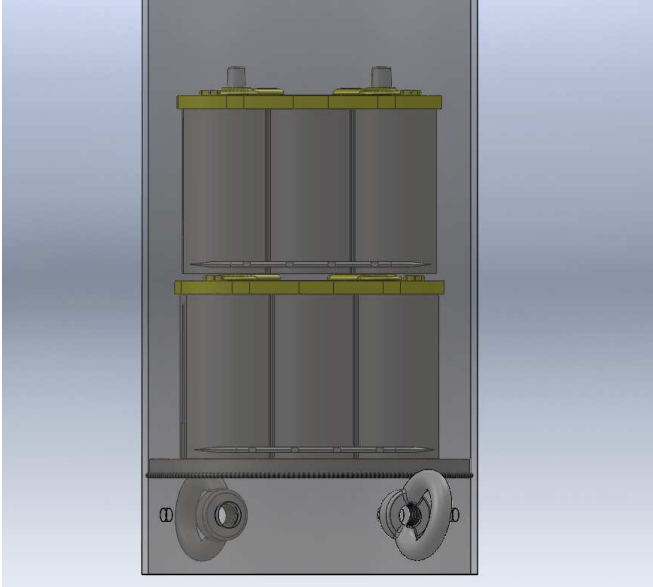
While most CB-1500 data buoys are configured with cellular modems or radios. Some applications require direct connection. Wireless buoys may occasionally require direct connection. The CB-1500 is configured with a direct connection port. Port 10 on the buoy lid includes a host RS-485 port for direct connection.

1. Unplug any connected sensor from Port 10.
2. Connect the USB end of a UW-USB-485P cable to a computer.
3. Open iChart.
4. Select **Advanced | Terminal** from the menu.
5. Select the COM Port to which the USB cable is connected.

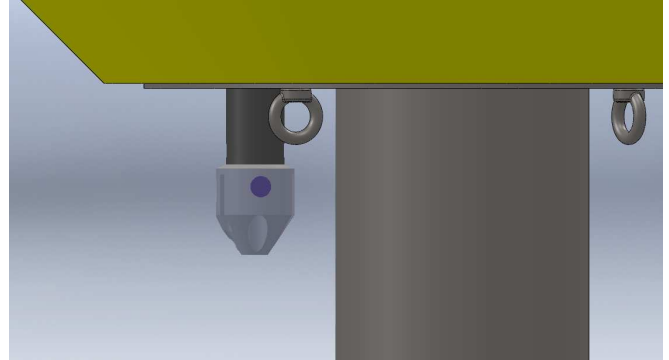
# NexSens CB-1500 Coastal Data Buoy

## System components

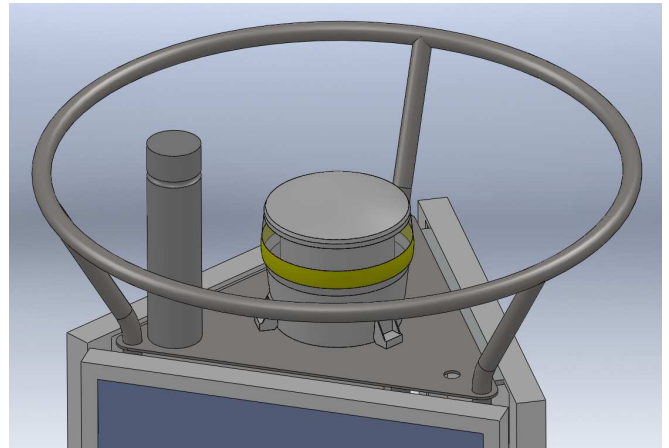
### Battery pack



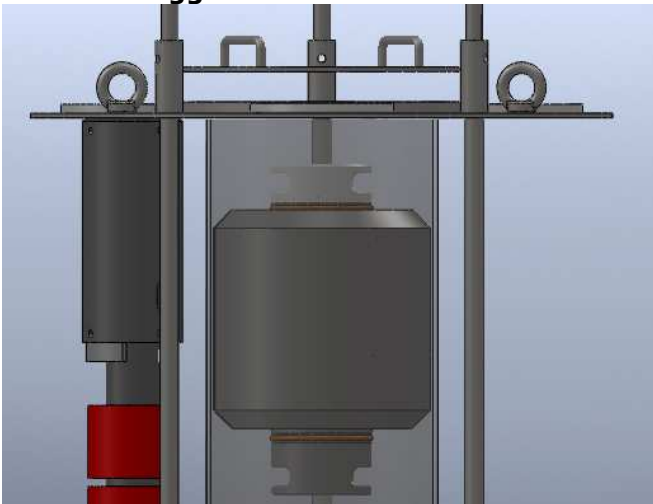
### Doppler mount



### Weather station mount and beacon



### SDL data logger shock mount



### Top plate and data well

