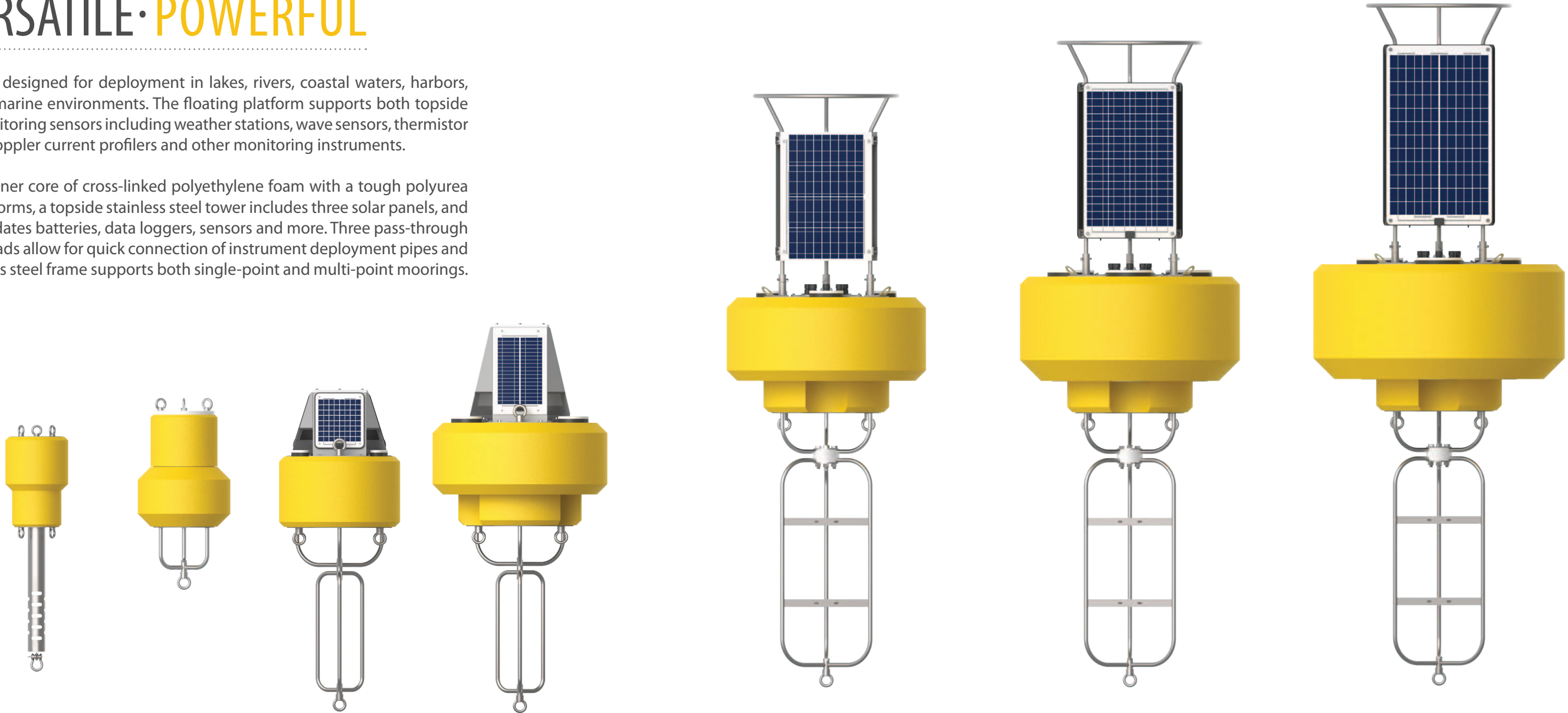


ENVIRONMENTAL **DATA BUOYS**

COMPACT·VERSATILE·POWERFUL

NexSens CB-Series Data Buoys are designed for deployment in lakes, rivers, coastal waters, harbors, estuaries and other freshwater or marine environments. The floating platform supports both topside and subsurface environmental monitoring sensors including weather stations, wave sensors, thermistor strings, multi-parameter sondes, Doppler current profilers and other monitoring instruments.

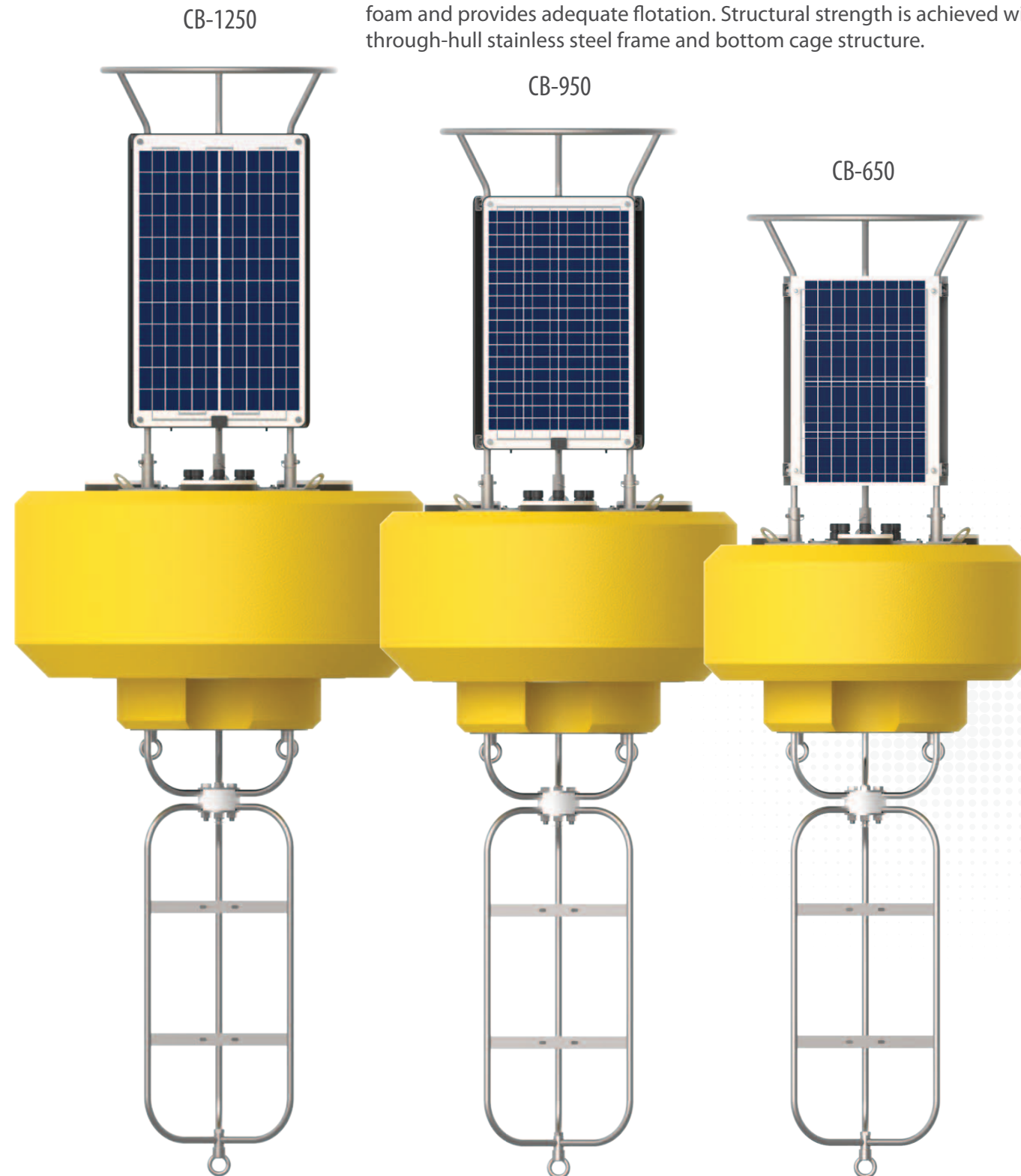
The buoys are constructed of an inner core of cross-linked polyethylene foam with a tough polyurea skin. On the CB-150 and larger platforms, a topside stainless steel tower includes three solar panels, and a center 10" ID data well accommodates batteries, data loggers, sensors and more. Three pass-through holes with female NPT bottom threads allow for quick connection of instrument deployment pipes and custom sensor mounts. The stainless steel frame supports both single-point and multi-point moorings.



	CB-40	CB-50	CB-150	CB-450	CB-650	CB-950	CB-1250
Hull Outer Diameter (inches/cm)	14 (35.56)	20 (50.8)	24 (61.0)	34 (86.4)	38 (96.5)	42 (106.7)	48 (121.9)
Hull Height (inches/cm)	20 (50.8)	12 (30.48)	14 (35.6)	20 (50.8)	22 (55.9)	26 (66.0)	28 (71.1)
Tower Height (inches/cm)	N/A	10 (25.4)	13 (33.0)	20 (50.8)	40 (101.6)	45 (114.3)	50 (127.0)
Data Well Inner Diameter (inches/cm)	N/A	N/A	10.3 (26.2)	10.3 (26.2)	10.3 (26.2)	10.3 (26.2)	10.3 (26.2)
Data Well Height (inches/cm)	N/A	N/A	13.5 (34.2)	19.5 (49.5)	21.5 (54.6)	25.5 (64.8)	27.5 (69.9)
Instrument Pipe Diameter (inches/cm)	3.87 (9.83)	N/A	2 (5.1)	4 (10.2)	4 (10.2)	6 (15.2)	6 (15.2)
Weight (lbs/kg)	38 (17.24)*	37 (16.78)*	95 (43)	145 (66)	215 (98)	285 (129)	300 (136)
Buoyancy (lbs/kg)	40 (18.14)	50 (22.68)	150 (68)	450 (204)	650 (295)	950 (431)	1250 (567)
Solar Power (Watts)	N/A	N/A	24	39	90	132	171
Mooring Attachments (3/4" eyenut)	1, 2, or 3 point	1 point	1 or 2 point	1 or 2 point	1 or 2 point	1 or 2 point	1 or 2 point

LARGE LAKES AND COASTAL BUOYS

Designed for large lakes and coastal waters the CB-1250, CB-950 and CB-650 are easy to deploy and built for extreme environments. Sensors and data logging equipment are powered by optional high capacity batteries. Three integral solar panels provide adequate charging independent of buoy orientation. Tower mounting accessories and water column ports aid in sensor deployment. A heavy polymer coating protects the closed-cell foam and provides adequate flotation. Structural strength is achieved with a through-hull stainless steel frame and bottom cage structure.



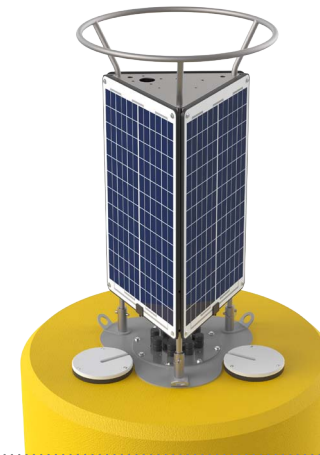
Easy to Deploy

Topside lifting eyes accommodate straps and rigging hooks while bottom mooring eyes are provided for mooring and sensor line connection. A bottom mounted instrument cage provides a deep mooring and ballast weight point for improved stability. Relative to other large ocean-going platforms the CB-series buoys are sized specifically for large lakes and coastal waters. A large ship or vessel is not required for deployment or retrieval.



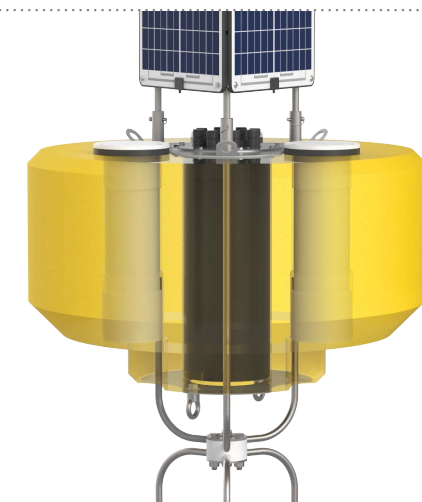
Self-Powered

Three integrated solar panels are evenly spaced around the buoy to capture sunlight from any direction and provide adequate battery charging. The solar tower can be quickly detached and installed either before or after deployment. Optional batteries banks offer 12VDC at 28, 56 or 84 A-Hr for power demanding applications such as onboard video cameras, fast sampling wave sensors, Doppler current meters, and frequent data transmissions. Batteries are secured in a sealed data well with adequate space for data logging equipment.



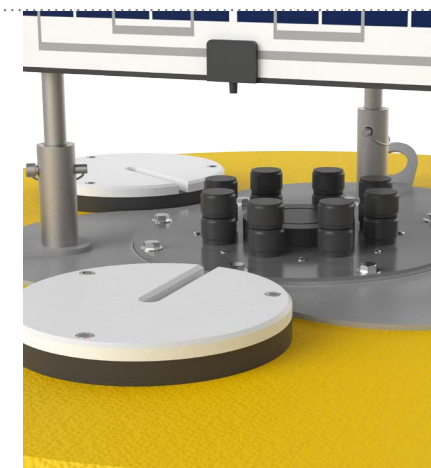
Connections

The standard data well lid provides pass-through connections for sensors, power, venting, and more. These fittings can be backfilled with epoxy or sealant to ensure waterproof ports. A data well plate can be supplied with user-defined connectors or an optional NexSens data logger. A connectorized lid provides a plug-and-play solution for industry standard sensors.



Accessories and Mounting

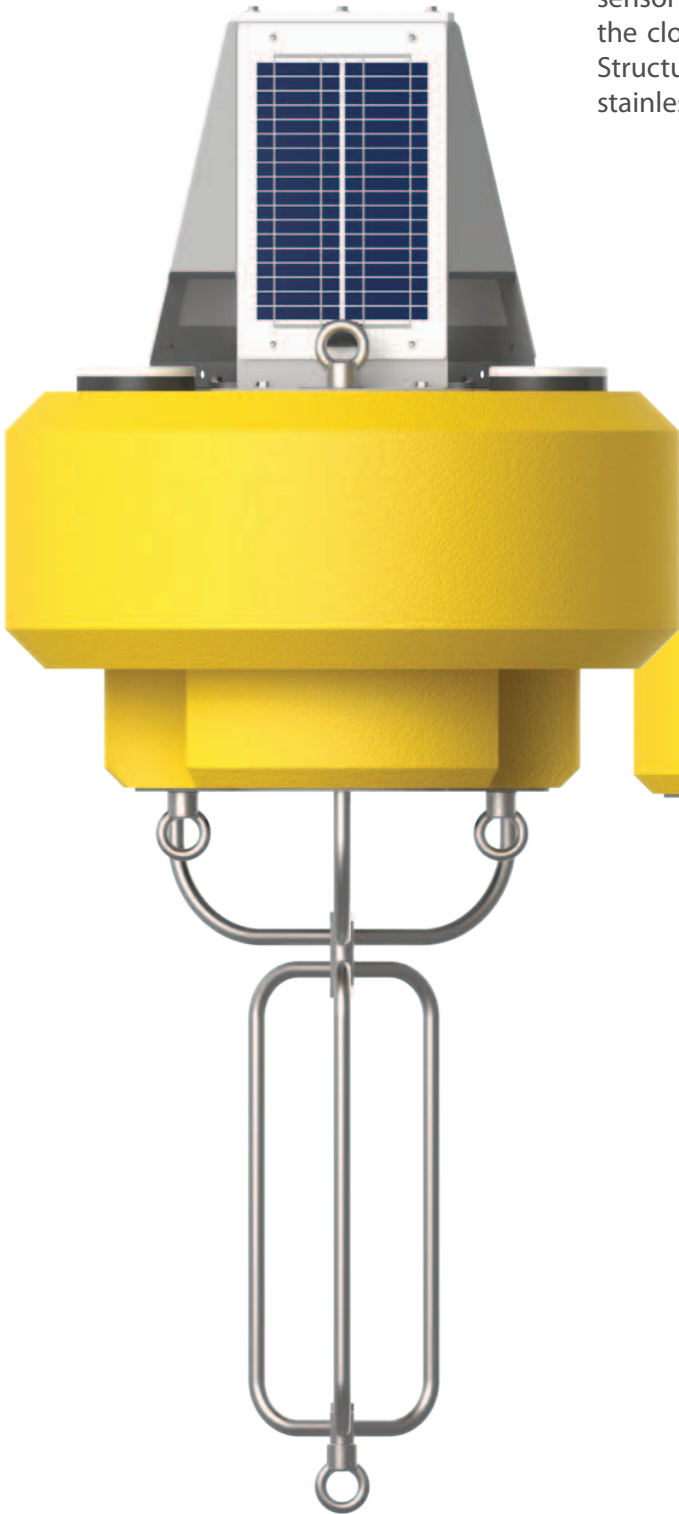
CB-1250, CB-950 and CB-650 buoys are designed to simplify monitoring system setup and assembly. Mounting holes are provided for marine beacons, weather station and antenna mounts, ambient light sensors and more. Water quality sensors pass through directly to the water column or can be securely mounted in optional deployment pipes.



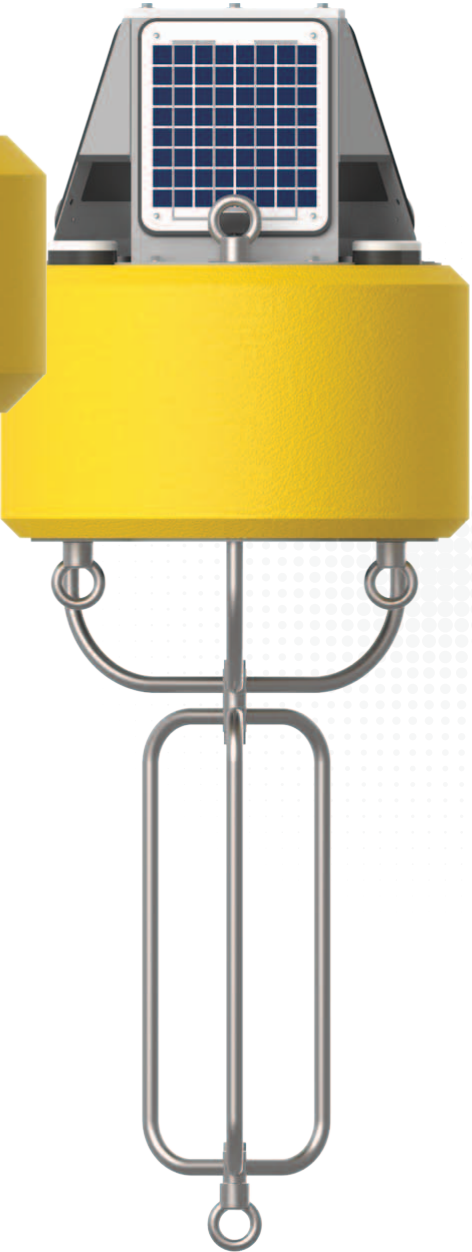
INLAND BUOYS

Designed for inland lakes and rivers, the CB-450 and CB-150 are compact, easy to deploy and designed for extreme environments. Optional high capacity batteries power sensors and data logging equipment. Three integrated solar panels provide adequate charging independent of buoy orientation. Top mounting accessories and water column ports aid in sensor deployment. A heavy polymer coating protects the closed-cell foam and provides adequate flotation. Structural strength is achieved with a through-hull stainless steel frame and bottom cage structure.

CB-450



CB-150



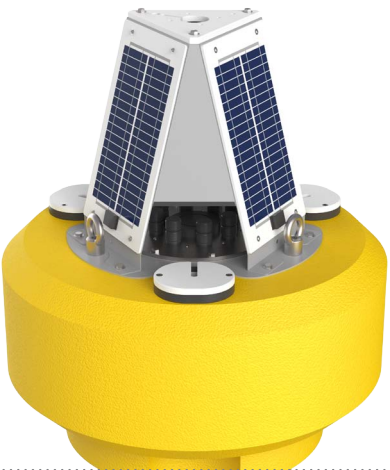
Compact and Lightweight

CB-450 and CB-150 buoys are small and lightweight enough to deploy from small boats yet built with the same materials and technologies used in large coastal buoys, thus providing a floating platform for years of service. Outfitted with topside lifting eyes and bottomside mooring eyes, rigging is quick and easy. A bottom mounted instrument cage provides a deep mooring point for improved stability.



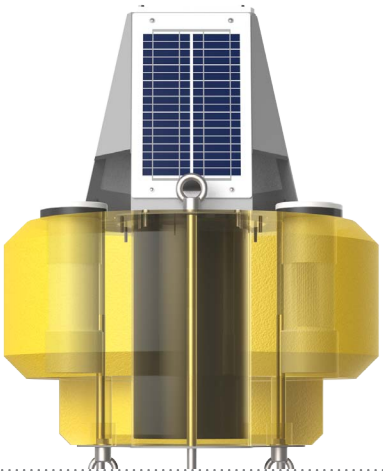
Self-Powered

Three integrated solar panels are angled and evenly spaced around the buoy to capture sunlight from any direction and provide adequate battery charging. The solar tower can be quickly detached and installed either before or after deployment. Optional batteries are secured in a sealed data well with adequate space for data logging equipment.



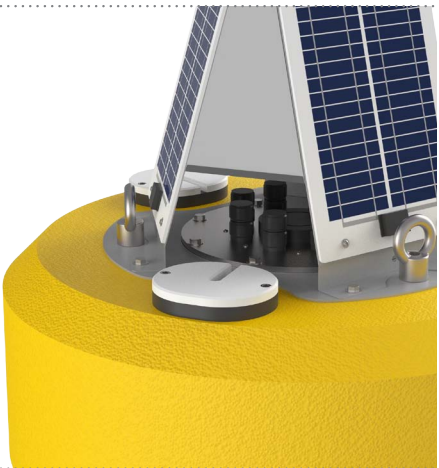
Connections

The standard data well lid provides pass-through connections for sensors, power, venting, and more. These fittings can be backfilled with epoxy or sealant to ensure waterproof ports. An optional NexSens data logger and connectorized lid provides a plug-and-play solution for industry standard sensors.



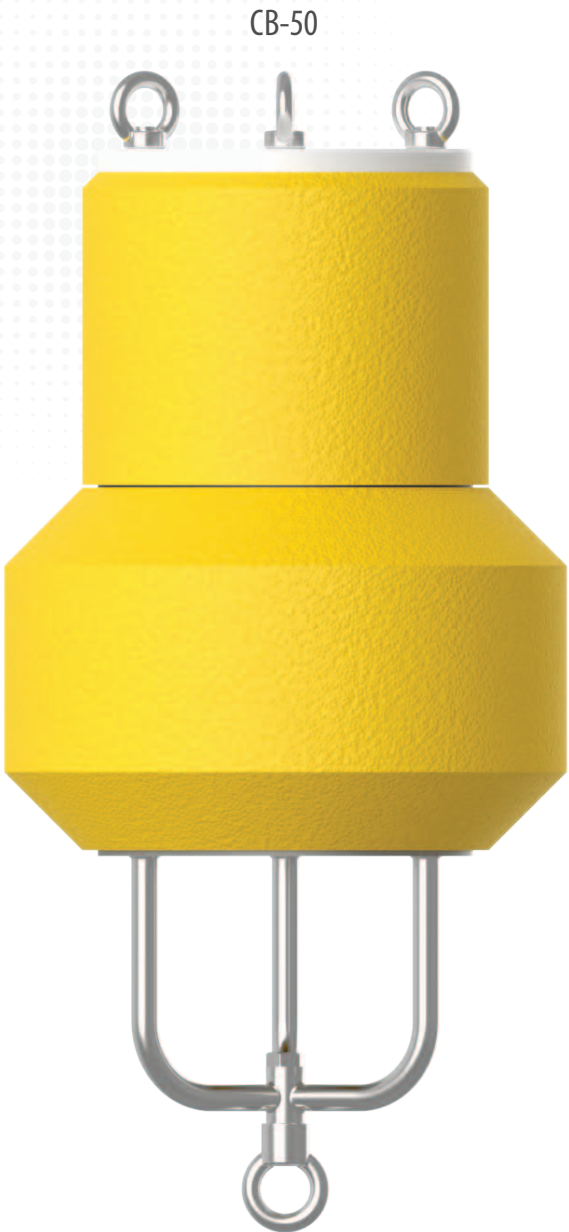
Accessories and Mountings

CB-450 and CB-150 buoys are designed to simplify monitoring system setup and assembly. Mounting holes are provided for marine beacons, weather station and antenna mounts, ambient light sensors and more. Water quality sensors pass through to the water column directly or can be securely mounted in optional deployment pipes.



QUICK DEPLOYMENT BUOY

The CB-50 Data Buoy is designed for quick deployment in emergency response situations including industrial spills and natural disasters. The buoy can be deployed from small boats, large vessels or even helicopters, making it the ideal choice for applications where water needs to be monitored at a moment's notice. Compatible with a variety of instruments including: turbidity sensors, dissolved oxygen sensors, hydrocarbon sensors, fluorometers, multi-parameter sondes, pressure transducers, and more.



Tower

A removable topside foam tower protects the electronics, supports solar marine lights, and offers a convenient lifting point via (3) 5/8" eyenuts.



Data Logger

The CB-50 Data Buoy is designed to accommodate NexSens X2-SDL submersible data loggers. Wireless telemetry options include cellular, Iridium satellite, and spread spectrum radio.

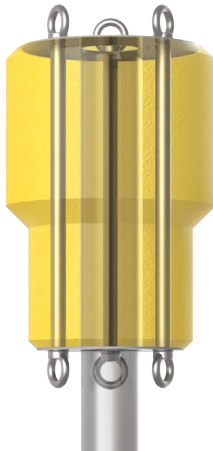
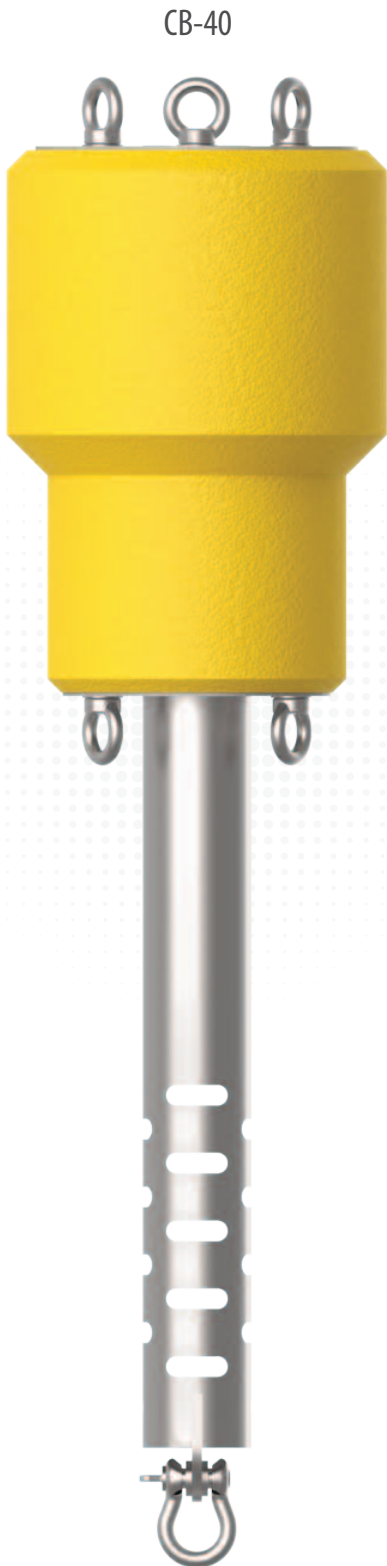


Sensor Connections

The X2-SDL is configured with three sensor ports for connection to industry standard communication protocols including SDI-12 and RS-485. Additional sensor inputs are available through the use of adapters.

SONDE BUOY

The CB-40 Data Buoy offers a compact and affordable platform for deploying water quality sondes and other instruments that integrate power and data logging. The buoy can also be used as an underwater float and instrument housing for subsurface deployments.



Sonde Port

The sonde port offers instrument access and includes space for additional instrumentation, battery packs, or other waterproof electronics.



Topside Plate

A stainless steel topside plate supports solar marine lights and offers a convenient lifting point via (3) eyenuts.



Instrument Pipe

A 4-inch stainless steel instrument pipe securely houses the sonde or water quality instrument and includes slotted holes for water flow. Compatible instruments include YSI 6-Series & EXO sondes, Hydrolab Series 5 & HL sondes, Eureka Manta and Manta+ sondes, and In-Situ Aqua TROLL sondes.

BUILT TO LAST

Solar Panels

The solar panels are constructed of a plastic film surface with semi-flexible metal backing. The panels are mounted to the tower with stainless steel hardware.



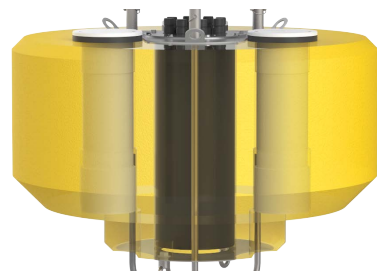
Stainless Steel Lifting Eyes

Stainless steel topside lifting eyes accommodate straps and rigging hooks while bottom mooring eyes are provided for mooring and sensor line connection.



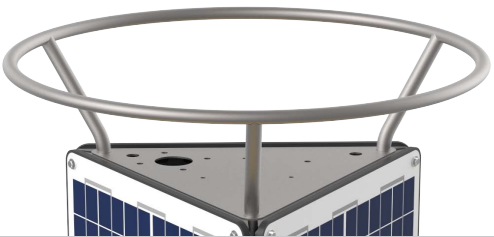
Sealed Data Well

A 10-inch diameter data well provides a watertight housing for batteries, data loggers, sensors, and other hardware.



Stainless Steel Tower

The stainless steel tower includes a top mounting plate for solar marine light and radar reflector. Mounts are also available for weather sensors, video cameras and other topside instruments.



Inner Core - Outer Shell

An advanced polyurea coating protects an inner core of closed-cell polyethylene foam providing a puncture-proof water-tight platform with adequate flotation.



Stainless Steel Frame

The stainless steel frame supports both single point and multi point moorings and supports the addition of sacrificial zinc anodes, an instrument cage, and ballast weights for additional stability.



DATA LOGGER



The X2-CB is an all-in-one environmental data logger specifically designed for use with a NexSens CB-Series data buoy. It automatically recognizes sensors and sends data to the web via Wi-Fi, cellular, radio, or satellite telemetry. The X2-CB includes five sensor ports that are compatible with most environmental sensor protocols including SDI-12, RS-232, and RS-485. All connections are made with a simple waterproof thread-in connector, and the built-in sensor library automatically facilitates setup and configuration. Sensor data is recorded on common or independent schedules.

The X2-CB is powered from the CB-Series buoy's solar rechargeable battery reserve. Advanced power management combined with ultra-low sleep and run currents extend battery life and reduce the need for the larger buoy and solar charging systems. The X2-CB monitors itself while collecting environmental data. Internal temperature, humidity, barometric pressure, voltages, and currents are constantly recorded. Failure alerts can be sent automatically to a predefined list of contacts.

The X2-CB includes built-in Wi-Fi for a smartphone, tablet, or PC connection. Through the direct Wi-Fi connection, users can view and download data, change settings, or troubleshoot. Optional integrated cellular, radio, or satellite telemetry modules offer real-time remote communications via the WQData LIVE web datacenter. There, data is presented on a fully-featured and easy-to-use dashboard. Other features include automated reports, alarms, push notifications and much more.



SENSOR OPTIONS

NexSens Technology offers a wide variety of sensors used for taking environmental measurements. A partial list of some of the more common buoy-mounted sensors are listed below.



MOUNTING HARDWARE

The CB-Series data buoys offer mounting hardware designed for specific instruments. Off-the-shelf mounts include EXO sonde mooring cages, Aquadopp ADCP buoy and cage mounts, SS510 sonar depth sensor mounts, Lufft and Airmar weather sensor mounts, buoy-mounted sonde deployment pipes, Zebra-Tech mechanical sensor wipers, and much more. Contact us for more information on custom sensor mounts.

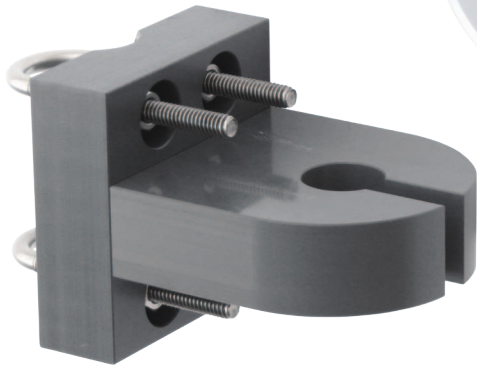


NexSens Deployment Pipe

NexSens Aquadopp ADCP Buoy Mount



Lufft WS-Series Weather Sensor Buoy Mount



NexSens Airmar SS510 Sonar Sensor Mount



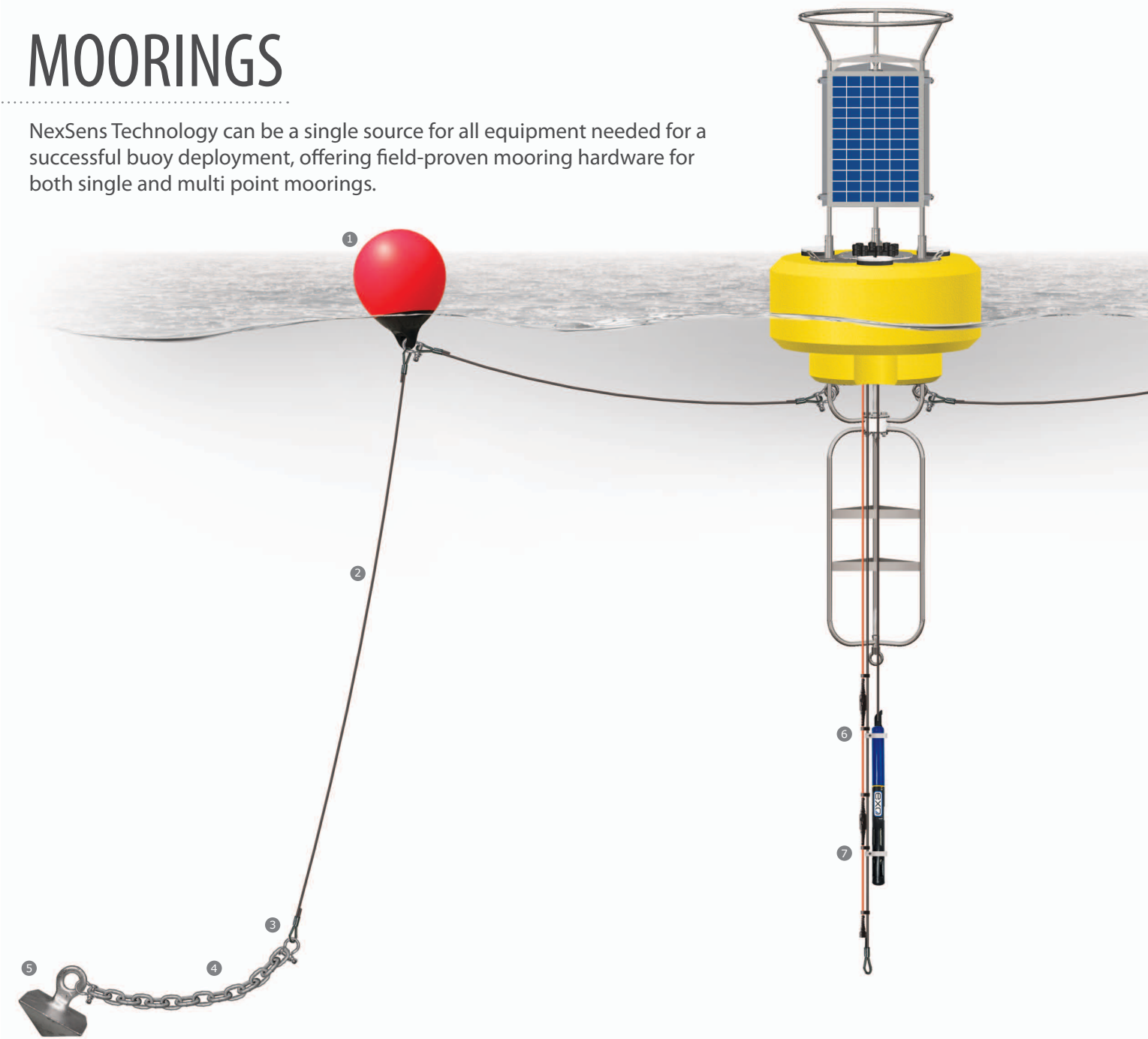
Zebra-Tech Dataflow Odyssey PAR Sensor Hydro-Wiper



NexSens EXO Sonde Mooring Cages

MOORINGS

NexSens Technology can be a single source for all equipment needed for a successful buoy deployment, offering field-proven mooring hardware for both single and multi point moorings.



1. Mooring and Marker Buoys

This all-purpose mooring & marker buoy, with the signature “blue ropehold” has proven itself in the most adverse conditions.

2. Custom Built Mooring Line

Custom 3/16” (1/4” OD) vinyl coated SS mooring lines provide plenty of holding power to secure underwater deployments.

3. Stainless Steel Shackles

Stainless steel bow shackles securely connect mooring chain and custom-built SS mooring lines to both NexSens data buoys and pyramid anchors.

4. Galvanized Chain

Galvanized chain is used to construct mooring lines for buoy-based water quality applications requiring single or multi-point moorings.

5. Pyramid Anchors

For excellent holding power, cast iron or steel mooring anchors such as these pyramids are far superior to granite or concrete blocks.

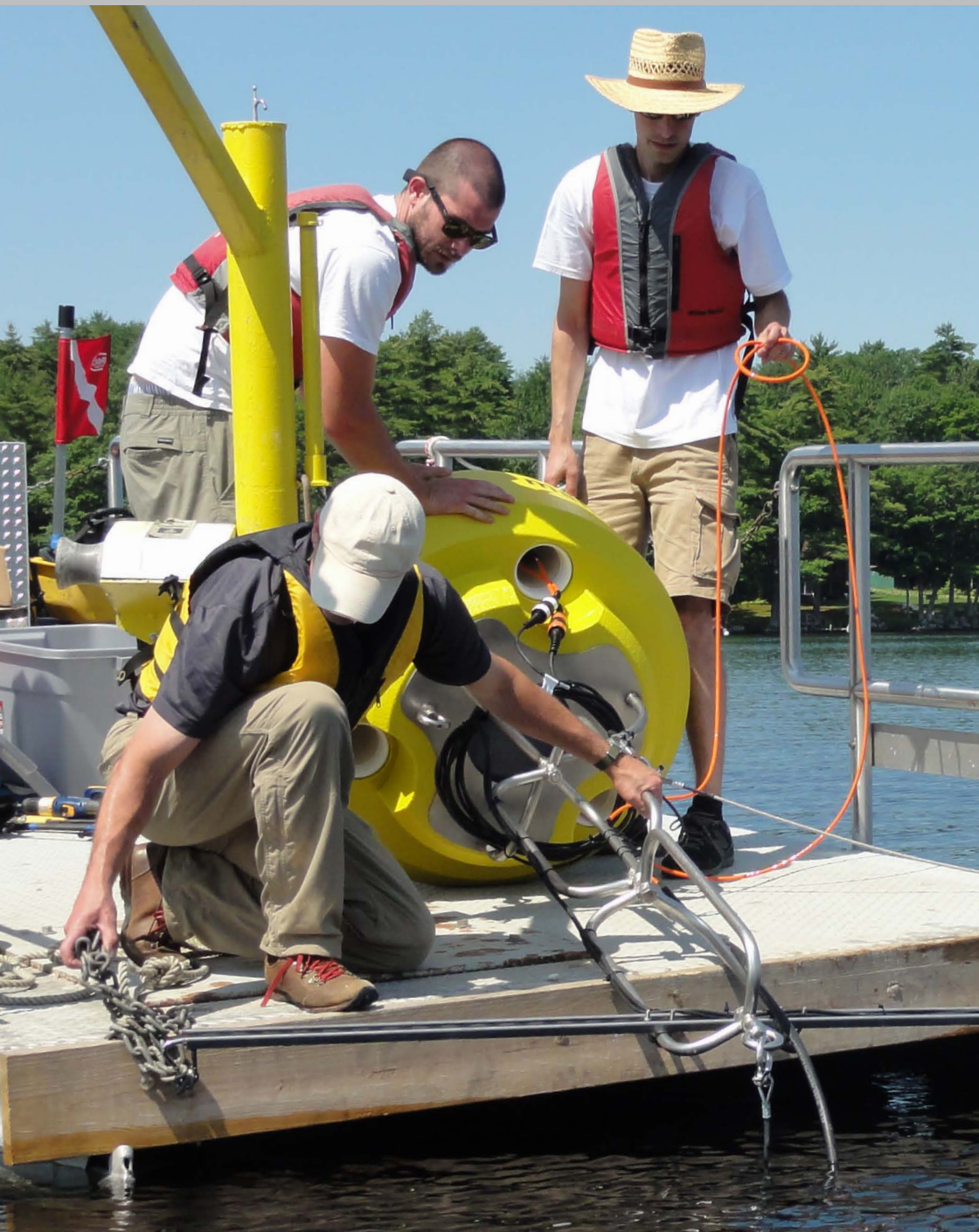
6. Mooring Line Clamps

The NexSens mooring clamps are designed to securely attach multi-parameter sondes and other water quality sensors along a mooring line.

7. Thermistor String Mooring Clamp

The NexSens TS-Clamp mooring clamp is designed to securely attach a string of TS210 or T-Node FR temperature sensors along a mooring line.

LAKE ENVIRONMENTAL ASSOCIATION



UNIVERSITY OF IOWA



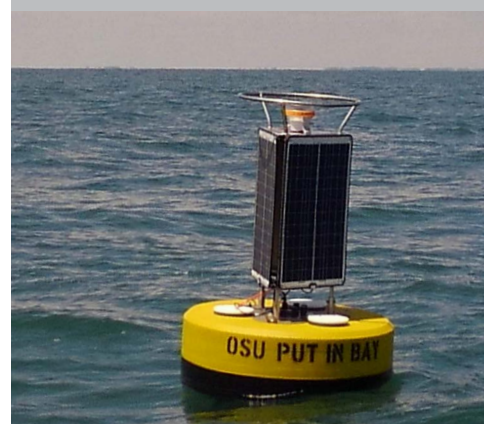
SEVENSON ENVIRONMENTAL



USGS



STONE LAB - OSU



TOM RIDGE ENVIRONMENTAL CENTER - PRESQUE ISLE

ABOUT NEXSENS

NexSens is a US-based company specializing in the design and manufacture of real-time environmental measurements systems. Recent data logger, sensor and web developments simplify collecting and sharing project data. Environmental measurement systems are constructed with standard components. Data is transmitted by Wi-Fi, cellular, satellite or radio and shared on a real-time data center.



Planning

Component and system drawings are available online



Training

Factory or on-site training ensure successful startup and operation



Integration

Systems are pre-constructed, tested and documented prior to shipment



Repair

Technicians inspect and recondition equipment for reliable performance



Field Services

Installation support and setup ensure successful deployment



Support

Online knowledge base, phone and email support are readily available

WQData ^{LIVE}

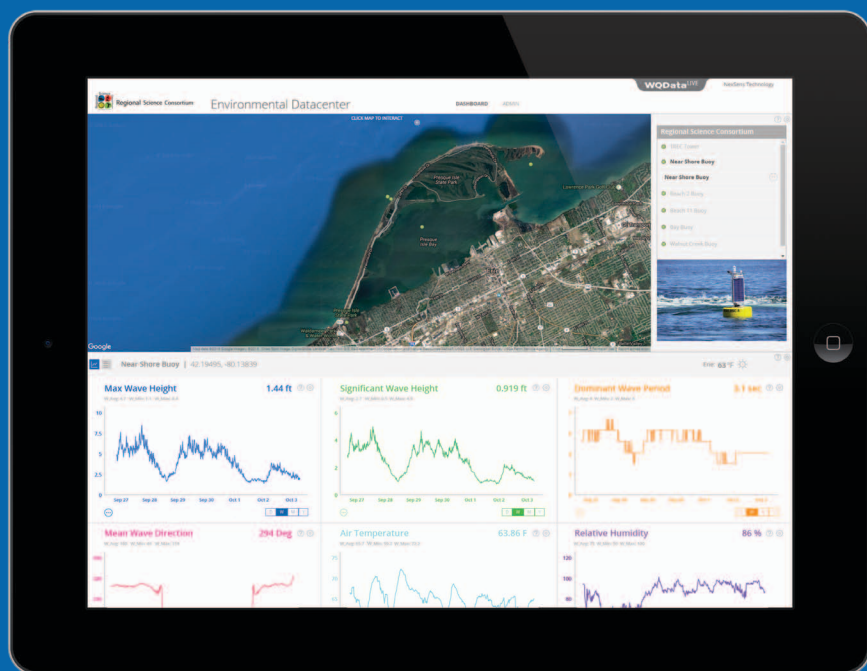


Managing environmental project data should be easy.

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