

X2-CB

BUOY-MOUNTED DATA LOGGER

- Easily accessible sensor & communication ports
- Wi-Fi, radio, cellular or satellite telemetry
- Supports a variety of environmental sensors
- Optional web datacenter
- Rugged waterproof enclosure

The NexSens **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 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 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.

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BUOY-MOUNTED DATA LOGGER

specifications

Mount	CB-Series buoy data well plate
Material	316 stainless steel plate with PVC body
Weight	10.5 lbs.
Dimensions	13.5" diameter, 4.4" height (6.0" with cell/radio antenna; 8.13" with Iridium antenna)
Power Requirements	5-24 VDC \pm 15% (Reverse polarity protected)
Current Draw (Typical @ 12VDC)	Low power sleep: 200uA; Active: 20mA; Wi-Fi transmitting: 43mA max; Cellular transmitting: 200mA
Peak Current	Power supply must be able to sustain a 500mA 1-second peak current (@ 12V)
Operating Temperature	-20 to 70°C
Rating	IP67 (standalone); IP65 (with telemetry)
Wi-Fi Communications	802.11b/g/n (direct to X2 or connect X2 to an existing network)
Wi-Fi Antenna	Internal to device
Wi-Fi Range	250 ft. maximum ¹
User Interface	RS-485 direct to PC software, embedded web, WQData LIVE web datacenter
Data Logging	64MB internal flash, 256MB microSD card (expandable up to 32GB)
Data Processing	Parameter level polynomial equation adjustment; Basic & burst averaging (min, max, standard deviation, and raw data available)
Real Time Clock (RTC)	<30sec/month drift ² ; Auto-sync weekly ³ ; Internal backup battery
Log Interval	User configurable from 1 second (10 minute default) ⁴ ; Unique interval per sensor
Transmission Trigger	Time-based, parameter threshold; Selective parameter upload option
Sensor Interfaces	SDI-12, RS-232 (3 channels), RS-485
Sensor Power	(3) 12V regulated switch channels with 1.5A capacity ⁵
Built-in Sensors	Temperature (-40 to 85°C, 0.002°C resolution, \pm 2°C accuracy); Pressure (300 to 1100 mbar, 0.016 mbar resolution, \pm 2 mbar accuracy); Humidity (0-100%, 0.04% resolution, \pm 5% accuracy); Battery voltage
Sensor Ports	(5) 8-Pin for sensor interface (RS-232, RS-485, SDI-12, 5V, 12V, GND) ⁷
Power Port	(1) 6-Pin for power and communication (12V Solar In, Power Switch, RS-485 Host, GND)
Telemetry Options	Cellular, Iridium Satellite, Radio
Antenna Port	N-Style RF

¹ Range varies based on many factors including obstructions, other wireless signals in the area, elevation changes and more. Actual distances may vary by location.

² Assumes 25°C operating temperature

³ Requires the X2 to be connected to the internet

⁴ Minimum log interval dependent on sensor limitations and processing time

⁵ Cumulative concurrent current limit of all three channels is 2A

⁶ Logger power supply must be able to support current requirements of sensors

⁷ P0A & P0B share a single RS-232 and power channel. P1A & P1B share a single RS-232 and power channel.

parts list

Part #	Description
X2-CB	X2-CB buoy-mounted data logger
X2-CB-C-VZ4G	X2-CB buoy-mounted data logger with Verizon 4G LTE cellular telemetry
X2-CB-C-AT4G	X2-CB buoy-mounted data logger with AT&T 4G LTE cellular telemetry
X2-CB-I	X2-CB buoy-mounted data logger with Iridium satellite telemetry
X2-CB-R-DG	X2-CB buoy-mounted data logger with 900 MHz radio telemetry
CB-150	Data buoy with polymer-coated foam hull & (3) 6-watt solar panels, 150 lb. buoyancy
CB-450	Data buoy with polymer-coated foam hull & (3) 10-watt solar panels, 450 lb. buoyancy
CB-650	Data buoy with polymer-coated foam hull & (3) 30-watt solar panels, 650 lb. buoyancy
CB-950	Data buoy with polymer-coated foam hull & (3) 40-watt solar panels, 950 lb. buoyancy
CB-1250	Data buoy with polymer-coated foam hull & (3) 55-watt solar panels, 1250 lb. buoyancy



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