

# 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 weatherproof 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 ultralow 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, voltages and currents are constantly recorded. Failure alerts can be sent automatically to a predefined list of contacts.

The **X2-CB** integrates the sensor ports, solar panel connector, battery vent, and wireless antenna all on the data well lid for quick installation on CB-Series data buoys. Optional integrated Wi-Fi, 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.

# X2-CB

## 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" with cell/radio antenna; 8.125" with Iridium antenna)
Power Requirements	5-16 VDC +/-5% (Reverse polarity protected)
Current Draw (Typical @ 12VDC)	Low power sleep: 350uA; Active: 45mA; Cellular transmitting: 300mA; Iridium satellite transmitting: 170mA
Peak Current	Power supply must be able to sustain a 500mA 1-second peak current (@ 12V)
Operating Temperature	-20 to 70°C
Rating	IP65
User Interface	RS-485 direct to CONNECT Software, WQData LIVE Web Datacenter, buzzer indicator
Data Logging	256MB microSD card (expandable up to 4GB)
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 <sup>1</sup> ; Auto-sync weekly <sup>2</sup> ; Internal backup battery
Log Interval	User configurable from 1 minute (10 minute default) <sup>3</sup> ; Independent interval per sensor
Transmission Trigger	Time-based; Selective parameter upload option
Sensor Interfaces	SDI-12, RS-232 (3 Channels), RS485
Sensor Power	(3) independent switches from input supply <sup>4,5</sup>
Built-in Sensors	Temperature (-40C to 85C, 0.1C resolution, ±0.3C accuracy); Humidity (0% to 100%, 0.1% resolution, ±4% accuracy from 5 to 95% RH & -20 to 70C); Battery voltage; System & sensor current
Sensor Ports	(5) 8-Pin for Sensor Interface (RS-232, RS-485, SDI-12, Switched Power, GND) <sup>6</sup>
Power Port	(1) 6-Pin for Power and Communication (12V Solar In, Power Switch, RS-485 Host, GND)
Telemetry Options	Wi-Fi, 4G LTE cellular, CAT-M1 cellular, Iridium satellite, 900 MHz radio, 2.4 GHz radio
Antenna Port	Type N female

<sup>1</sup> Assumes 25°C operating temperature

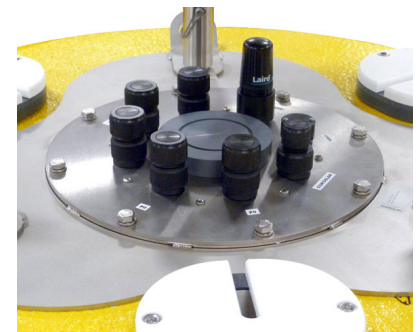
<sup>2</sup> Requires the X2 to be connected to the internet

<sup>3</sup> Minimum log interval dependent on sensor limitations and processing time

<sup>4</sup> Cumulative concurrent current limit of all three channels is 2A

<sup>5</sup> Logger power supply must be able to support current requirements of sensors

<sup>6</sup> 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-W	X2-CB buoy-mounted data logger with Wi-Fi telemetry
X2-CB-C-2G3G	X2-CB buoy-mounted data logger with 2G/3G cellular telemetry
X2-CB-C-NA4G	X2-CB buoy-mounted data logger with North American 4G LTE cellular telemetry
X2-CB-C-CATM	X2-CB buoy-mounted data logger with CAT-M1/NB2 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
X2-CB-R-DG24	X2-CB buoy-mounted data logger with 2.4 GHz radio telemetry



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