X2-CBMC

BUOY-MOUNTED DATA LOGGER

- MCIL/MCBH wet-mateable sensor and power ports
- Cellular or Iridium satellite telemetry
- Supports a variety of environmental sensors
- Optional web datacenter
- Rugged waterproof enclosure

The NexSens **X2-CBMC** is an all-in-one environmental data logger specifically designed for offshore use with a NexSens CB-Series data buoy. It automatically recognizes sensors and sends data to the web via cellular or Iridium satellite telemetry. The **X2-CBMC** includes five sensor ports that are compatible with most environmental sensor protocols including SDI-12, RS-232 and RS-485. All connections are made using MCIL/MCBH wet-mate connectors, and the built-in sensor library automatically facilitates setup and configuration. Sensor data is recorded on common or independent schedules.

The **X2-CBMC** 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-CBMC** 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-CBMC** integrates the sensor ports, solar panel connector, pressure relief valve, and wireless antenna all on the data well lid for quick installation on CB-Series data buoys. Integrated cellular or Iridium satellite telemetry modules offer real-time remote communications via the **WQDataLIVE** 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.

NEXSENS technology

X2-CBMC

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 antenna; 8.13" with Iridium antenna)
Power Requirements	5-24 VDC ±10% (Reverse polarity protected)
Current Draw (Typical @ 12VDC)	Low power sleep: 350uA; Active: 35mA; Cellular transmitting: 300mA
Peak Current	Power supply must be able to sustain a 500mA 1-second peak current (@ 12V)
Operating Temperature	-20 to 70℃
Rating	IP67 (standalone); IP65 (with telemetry)
User Interface	RS-485 direct to PC software, WQData LIVE web datacenter
Data Logging	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[1]; Auto-sync weekly[2]; Internal backup battery
Log Interval	User configurable from 1 minute (10 minute default)[3]; Unique interval per sensor
Transmission Trigger	Time-based, 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[4,5]
Built-in Sensors	Temperature (-40 to 85℃, 0.1℃ resolution, ±0.3℃ accuracy); Humidity (0-100%, 0.1% resolution, ±4% accuracy from 5-95% RH & -20 to 70℃); Battery voltage
Sensor Ports	(5) MCBH-8-MP for sensor interface (RS-232, RS-485, SDI-12, 5V, 12V, GND)[6]
Power Port	(1) MCBH-6-FS for power and communication (12V Solar In, Power Switch, RS-485 Host, GND)
Telemetry Options	Cellular, Iridium Satellite
Antenna Port	N-Style RF

[1] Assumes 25℃ operating temperature

[2] Requires the X2 to be connected to the internet

[3] Minimum log interval dependent on sensor limitations and processing time

[4] Cumulative concurrent current limit of all three channels is 2A

[5] Logger power supply must be able to support current requirements of sensors

[6] P0A & P0B share a single RS-232 and power channel. P1A & P1B share a signle RS-232 and power channel.

parts list

Part #	Description
X2-CBMC-C-VZ4G	X2-CBMC buoy-mounted data logger with MCBH connectors & Verizon 4G LTE cellular telemetry
X2-CBMC-C-AT4G	X2-CBMC buoy-mounted data logger with MCBH connectors & AT&T 4G LTE cellular telemetry
X2-CBMC-C-2G3G	X2-CBMC buoy-mounted data logger with MCBH connectors & 2G/3G cellular telemetry
X2-CBMC-I	X2-CBMC buoy-mounted data logger with MCBH connectors & Iridium satellite telemetry
CB-150	Data buoy with polymer-coated foam hull & (3) 8-watt solar panels, 150 lb. buoyancy
CB-450	Data buoy with polymer-coated foam hull & (3) 13-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) 44-watt solar panels, 950 lb. buoyancy
CB-1250	Data buoy with polymer-coated foam hull & (3) 57-watt solar panels, 1250 lb. buoyancy

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