

X2

ENVIRONMENTAL DATA LOGGER

- Controlled from any smartphone, tablet, or PC
- Wi-Fi, radio, cellular or satellite telemetry
- Supports a variety of environmental sensors
- Optional web datacenter
- Marine anodized aluminum housing



The NexSens **X2** is an all-in-one environmental data logger that can be controlled from any internet browser using a smartphone, tablet, or PC. It automatically recognizes sensors and sends data to the web via Wi-Fi, cellular, radio, or satellite telemetry. The **X2** includes three 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 thread-in connector, and the built-in sensor library automatically facilitates setup and configuration. Data is stored on common or independent schedules.

The **X2** can be powered with just few alkaline batteries. Advanced power management combined with ultra-low sleep and run currents extend battery life and eliminate the need for multi-battery arrays or large solar charging systems. Smart power circuits automatically switch to reserve power when the main source is depleted. The **X2** 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** includes built-in Wi-Fi for smartphone, tablet, or PC connection. Through the local Wi-Fi connection, users can view live data, change settings, or troubleshoot. Optional integrated cellular 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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specifications

Mount	(3) 3/8-16 bolt holes on bottom
Material	Anodized aluminum
Weight	3.5 lbs.
Dimensions	4.90" diameter, 4.77" height
Power Requirements	5-24 VDC \pm 10% (Reverse polarity protected)
Current Draw (Typical @ 12VDC)	Low power sleep: 350uA; Active: 35mA; Wi-Fi transmitting: 43mA max; Cellular transmitting: 300mA
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, magnet for Wi-Fi, status LEDs
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 ² ; Auto-sync weekly ² ; Internal backup battery
Log Interval	User configurable from 1 minute (10 minute default) ⁴ ; 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 ^{5,6}
Built-in Sensors	Temperature (-40 to 85°C, 0.1°C resolution, \pm 3°C accuracy); Humidity (0% to 100%, 0.1% resolution, \pm 4% accuracy from 5 to 95% RH & -20 to 70°C); Battery voltage
Sensor Ports	(3) 8-Pin for sensor interface (RS-232, RS-485, SDI-12, 5V, 12V, GND)
Power Port	(1) 6-Pin for power and communication (Primary/Secondary/Backup Input, RS-485 Host, GND)
Telemetry Options	Cellular, Iridium Satellite, Radio, Radio to Cellular
Antenna Port	SMA (Cellular and Iridium) and RP-SMA (Radio)

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

parts list

Part #	Description
X2	X2 environmental data logger
X2-C-2G3G	X2 environmental data logger with 2G/3G cellular telemetry
X2-C-VZ4G	X2 environmental data logger with Verizon 4G LTE cellular telemetry
X2-C-AT4G	X2 environmental data logger with AT&T 4G LTE cellular telemetry
X2-I	X2 environmental data logger with Iridium satellite telemetry
X2-R-DG	X2 environmental data logger with 900 MHz radio telemetry
X2-R-DG24	X2 environmental data logger with 2.4 GHz radio telemetry
X2-RB-DG	X2 environmental data logger with 900 MHz radio base station
X2-RB-DG24	X2 environmental data logger with 2.4 GHz radio base station
X2-RC-DG-VZ4G	X2 environmental data logger with 900 MHz radio to Verizon 4G LTE cellular telemetry
X2-RC-DG-AT4G	X2 environmental data logger with 900 MHz radio to AT&T 4G LTE cellular telemetry



tel: **937.426.2703**
8am to 7pm EST, Monday-Friday

fax: **937.426.1125**

NexSens Technology, Inc.
2091 Exchange Court
Fairborn, OH 45324
info@nexsens.com

nexsens.com