X3-SUB

SUBMERSIBLE DATA LOGGER

- Supports most industry environmental sensors
- Wi-Fi, 4G LTE & Iridium satellite telemetry options
- Direct PC or cloud-based communications
- MCIL/MCBH wet-mate sensor and power ports
- Type 316 stainless steel housing

The **X3-SUB** Submersible Data Logger is a rugged, self-powered remote data logging system specifically designed for offshore use without fear of accidental flooding. The system is configured with three sensor ports for connection to most environmental sensors including multi-parameter sondes, water quality sensors, temperature strings, ADCP's, water level sensors, and weather stations. 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.

Unlike many data loggers, the **X3-SUB** can withstand extreme wave action, floods, periodic & long-term deployment underwater, and more. The Type 316 stainless steel housing is completely sealed and waterproof for long-term sub-surface data logging. When fitted for wireless remote communication, the cellular and satellite antennas are also waterproof. The **X3-SUB** can be powered by internal SLA battery, alkaline battery pack, or external 12 VDC power. The internal SLA battery is intended for use with the **CB-75** Data Buoy for continuous power via solar charging.

Using Bluetooth or a USB adapter and **CONNECT** Software, users can configure the **X3-SUB** Data Logger for deployment, view live data, change settings, or troubleshoot. Standard Wi-Fi and optional integrated 4G LTE cellular or Iridium satellite telemetry modules offer 2-way 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, email/text alarms, public portal, API, and much

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specifications

Material	Type 316 stainless steel
Weight	8.2 lbs. (3.72kg); 12.2 lbs. (5.53kg) with rechargeable battery; 14.1 lbs. (6.40kg) with alkaline battery
Dimensions	5.5″ (13.97cm) diameter with 7.25″ (18.42cm) flange x 10.30″ (26.16cm) height
Internal Power Options	6 A-Hr SLA rechargeable battery or 20 D-cell alkaline battery pack
External Power Requirements	10.7 to 16.8 VDC +/-5%; includes reverse polarity protection, over voltage protection (OVP), and under voltage lock out (UVLO) protection
Current Draw (Typical @ 12VDC)	Sleep: 450uA; Active: 55mA; Wi-Fi transmitting: 100mA; 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	-40°C to 70°C
Rating	IP68 ; X3-SUB (no telemetry) depth rated to 328 ft. (100m)
User Interface	Wireless Bluetooth or wired RS-485 via USB adapter to CONNECT Software; WQData LIVE Web Datacenter with optional wireless telemetry; Status beeps
Real Time Clock (RTC)	<30sec/month drift[1]; Auto-sync weekly[2]; Internal backup battery
Data Logging	8 MB non-volatile flash memory; >1 year storage with 20 parameters at 15-minute interval; Max 200 parameters per log interval (170 parameters per instrument)
Log Interval	User configurable from 1-minute (10-minute default)[3]; Unique interval per sensor
Transmit Interval	User configurable from 5-minute (10-minute default)
Transmission Trigger	Time-based; Selective parameter upload option
Sensor Interfaces	RS-232 (3 Channels), SDI-12, RS-485, Pulse Count
Sensor Power	(2) independent switches from input supply[4,5]
Built-in Sensors	Temperature (-40° to 100°C, 0.016°C resolution, ±0.3°C accuracy); Humidity (0% to 100%, 0.03% resolution, ±4% accuracy from 5 to 95% RH; System voltage; System current; System power; Real-time clock (RTC) battery voltage
Sensor Ports	(3) MCBH-8-MP for sensor interface (RS-232, RS-485, SDI-12, Power, GND)
Power Port	(1) MCBH-6-FS for power and communication (12V Solar In, Power Switch, RS-485 Host, GND)
Telemetry Options	2.4GHz Wi-Fi (802.11 b/g/n), 4G LTE global cellular, Iridium satellite; includes fallback support
Antenna Port	Type N female

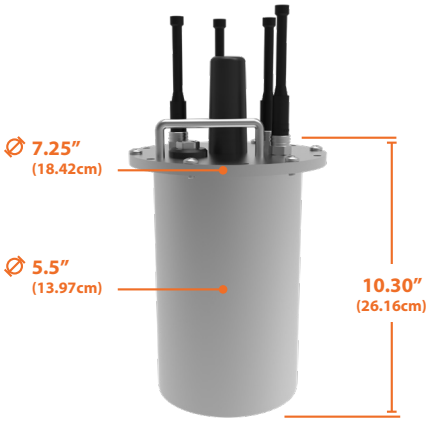
[1] Assumes 25ºC operating temperature

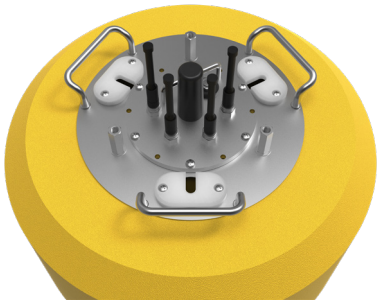
[2] Requires the X3-SUB to be connected to the internet

[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





parts list

Part #	Description
X3-SUB	X3-SUB submersible data logger with Wi-Fi telemetry
X3-SUB-4G	X3-SUB submersible data logger with Wi-Fi & 4G LTE cellular telemetry
X3-SUB-IR	X3-SUB submersible data logger with Wi-Fi & Iridium satellite telemetry
BAT-A04	X3-SUB rechargeable battery pack assembly with solar regulator, 6 A-Hr
BAT-20D	X3-SUB alkaline battery pack assembly with jumper switch, 20 D-cell
MCIL6MP-USB-DC	Male 6-pin USB PC cable with external 12VDC power adapter
CB-75	CB-75 data buoy with solar top for rechargeable battery pack, 75 lb. buoyancy
CB-75A	CB-75 data buoy with blank top for alkaline battery pack, 75 lb. buoyancy
M550-F-Y	Solar marine light with flange mount & 1-3 nautical mile range, 15 flashes per minute, yellow
CB-ZA	Sacrificial zinc anode for CB-Series data buoys

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