



# Multilog LX2

Versatile Data Logger



MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL



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## Versatile Data Logger

Multilog LX2 is the highly versatile, battery powered telemetry data logger incorporating a convenient serial input that supports compatibility with a wide variety of sensors and meters, including Modbus.

A powerful, fast logging solution, Multilog LX2 delivers effective data recording and efficient transmission.



### Key Features and Benefits

- **Pulse interval timing:** smooths reading set times of infrequent pulses e.g. minimum night flow
- **Versatile logging:** up to 2 x digital flow inputs and 1 x analogue input (internal pressure, external pressure or 4-20mA)
- **Telemetry:** NBloT LTE-based cellular communication standard with fallback 2G capability
- **Flexible:** up to 25Hz and window logging (on request)
- **Fast logging:** logging to 1 second - as standard
- **Multiple recordings:** can record mixture of minimum, maximum, average or spot values in each sample interval
- **Detailed readings:** true max and min flow and investigation of pressure spikes through Pseudo logging
- **Serial input:** for connection to digital meters, SonicSens level sensor, Permalog+ leak noise logger and Modbus sensors
- **Long-term monitoring:** 5 year battery life (depending on settings and signal strength)
- **External antennas:** support improved signal strength (contact HWM for more information)

- **Fully waterproof:** the IP68 rating has been tested at 10m depth over a 24 hour period
- **Alarms:** real-time alarms can be enabled for immediate response to network incidents

### Applications

Designed to fit inside very shallow Atplas box installations, the logger is ideal for many applications, including monitoring flow and/or pressure in a district or zone to assess demand, leakage and pressure conformance.

Multilog LX2 transmits data through an integral modem with NBloT / LTE-M (Cat-1) with 2G fallback or 2G as primary technology, as well as other available cellular options.

The logger utilises the latest advances in cellular telemetry technology to provide rapid transmission, enabling data to be retrieved more frequently for analysis and response.

Additional power can be delivered to Multilog LX2 via connectivity to external battery packs or mains power.

An innovative feature of Multilog LX2 is a secondary channel, enabling additional fast logging down to 25Hz as standard or 100Hz if specifically requested on product build.

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### Input Options

Digital	Maximum 4 uni-directional flow or 2 bi-directional channels.
	Volt free or powered meter connections.
	Digital channels configurable as Tamper Detection.
Analogue	Up to 64 pulses per second.
	Internal or external pressure connected via 4pin IP68 Mil-spec connector.
	0-20 bar / 0-200 meters head / 0-300psig, 0.1% repeatability / please note that the logger is calibrated to 100m as standard.  (200m calibration must be specified at time of order if required).
Serial Input	Proprietary serial interface for SonicSens ultrasonic level monitors and third-party devices like Serial Meters using Modbus, SDI12 and RS232.
	Support for multiple Water Quality Sensors such as MetriNet pH, Turbidity and Conductivity.
	Configurable Modbus Master to connect to Modbus Slave Sensor.

### Features

Frequency	Standard Logging: 15 min (variable logger sample rate from 1s to 24hrs - this may affect battery life and communication costs.
Fast Logging (secondary channel)	Secondary, fast channel supports sampling up to 25 Hz (option for 100 Hz) and record average, minimum, maximum or standard deviation
Pulse Interval Timing	Count and Event logging modes independent for both recordings. Pulse Interval Timing helps to smooth readings (e.g. leakage) in low flows by counting the time between each pulse (event mode). This is available in addition to totalling the pulses (count mode).
Logger/Site ID	7 alphanumeric characters. Readable factory set serial number in firmware
Dimensions	H = 110mm, W = 150mm, D = 105mm (4.3" x 5.9" x 4.1")
Construction	PC/ABS plastic enclosure
Weight	590g (1.3lb)
Operating Temp.	-20 to +60°C (-5 to +140°F)
Ingress Protection	IP68 submersible
Power	Lithium Thionyl-Chloride cell batteries.
	Typical 5 years (depending on settings and signal condition), otherwise maintenance free design.  External power connection for battery box and other supplies like 12V/235V power (via PSU) supported for more frequent dial-in and long-term accelerated logging.
Memory	Primary recording: 1 million readings records multiple years of data and alarms/events (at 15 minute logging).
	Configuration and data/alarms stored in non-volatile memory.  Alarms shared with data memory.

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### Communication

Local	Infra-red reading head for connection to laptop, desktop PC or Windows tablet.
Internal Cellular Modem	Cellular modem supporting 2G(GPRS or SMS)/3G/4G/NBLoT/LTE-M (Cat-1) with SMS backup where available - contact HWM for available options.  GPRS/NBLoT/LTE-M (Cat-M1) can send data down to every 15 minutes with appropriate battery pack.
SIM Card	HWM Roaming or customers supplied
Accelerated dial-in	Dial-in rate is increased if alarm situation is triggered. Logger can accelerate dial-in at alarm level for multiple applications - including SonicSens, Flow, Pressure and other alarmed sensors.
Remote Communication	Remote configuration of sample and log rates, calibration factors, alarm settings.  No limit on remote configuration.
Time Synchronisation	On-board 24 hour real time clock with date facility with time synchronisation with every connection to server.

### Alarms

Alarms Features	16 alarms types per logger (can be increased above 16 alarms in certain configurations)  Alarms can be forwarded to multiple (8+) mobile numbers or via SMS.  Alarm comment field 16 characters.  No limits on alarms sent from logger.  All alarms Time-Stamped within logger before upload to server.
Configurable Data Alarms	Threshold High/Low.  Rate of Change.  Profile (Time).  Minimum Night Flow  Sensor out of range High/Low alarms.
System Alarms	Local Configuration Alarms.  2-stage battery alarm (configurable).  Configuration Corruption Alarm.  External Power Disconnect Alarm.



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