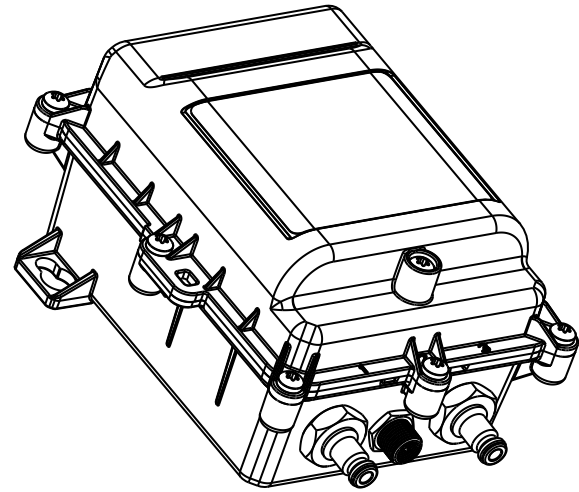# Multilog MX
Advanced Multi-Channel Data Logger

Multilog MX 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 MX 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 4x digital flow inputs and 2x analogue inputs (internal pressure, external pressure or 4-20mA)

- **Telemetry:** cellular based. 5G/LTE-M and/or NBIoT with 2G fallback or 4G/LTE Cat-1 with 3G and 2G fallback

- **Flexible sampling:** 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, proprietary serial interface with LNS/ Hydrophone 2 leak noise detection, and self powered Modbus sensors

- **Long-term monitoring:** 5 year battery life (depending on settings and signal strength)

- **External antennas:** support improved signal strength (contact HWM Global for more information). Additional antenna requited for GPS Time Synchronisation

- **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

- **Wireless programming:** units can be programmed and activated locally through HWM Global mobile apps

- **Magnetic switch:** a magnetic switch built into the case of the logger that can turn on the logger for rapid deployment

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 MX transmits data through an integral cellular modem with options of: 5G/LTE-M (Cat-M1) and NBIoT (including 2G fallback) or 4G/LTE Cat-1 (including 2G/3G fallback). Contact HWM Global for more information.

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.

The replaceable internal batteries will typically power the device for five years when data is transmitted every eight hours. For more frequent dial-in, additional power can be delivered through external battery packs.

Multilog MX is also supplied with an external FME antenna connection that enables the use of a range of specialist antennas to ensure reliable communication on installations with low signal levels.

MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL

Multilog MX

Advanced Multi-Channel Data Logger

Input Options

Digital	Two bi-directional pulse for flow. Two Four single-directional pulse inputs for Flow logging. Up to 64 pulses per second
Analogue	2 x Internal Pressure Transducers. 2 x External pressure. 1 x 4-20mA (optional). 0-20 bar / 0-200 meters head / 0-300psig, 0.1% repeatability / please note that the logger is calibrated to 10 bar as standard, (20 bar calibration must be specified at time of order if required) (0-10 bar / 0-100 meters head / 0-150 psig option also available) Internal and External Temperature
Serial Input	Proprietary serial interface for Leak Noise sensor / Hydrophone 2 leak noise detection, serial meters etc. RS485 MODBUS RTU, ASCII and TOPWIN for third party self-powered devices

Communication

Local	Bluetooth(r) configuration interface with dedicated mobile phone app for configuration, local testing and downloading of data
Internal Cellular Modem	Cellular modem supporting 5G/NBIoT and/or 4G/LTE Cat-1 (including 3G and 2G fallback). Contact HWM Global for all available options
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 Flow, Pressure and other alarmed sensors
External Antenna	FME Antenna Connection (standard) FME GNSS antenna connection for Network Time Synchronization (if required)

Features

Frequency	Variable logger sample rate from 1s to 24hrs (this may affect battery life and communication costs)
Logger/Site ID	7 alphanumeric characters. Readable factory set serial number in firmware
Dimensions	153H x 120W x 80D (mm) 6.0" x 4.7" x 3.1"
Construction	PC/ABS plastic enclosure
Weight	1kg (2.2lb)
Operating Temp.	-20 to +60°C (-5 to +140°F)
Ingress Protection	IP68
Power	Lithium Thionyl-Chloride, typical 5 years (depending on settings and signal condition). External power connection for battery box and third-party devices.
Memory	Primary recording: approximately 1 million readings (non-volatile memory). For larger sizes contact HWM Global
Fast Logging (secondary channel)	Can be programmed to record either secondary or fast data, logging channel supports sampling up to 25 Hz and record average, minimum, maximum, standard deviation or time interval between pulses (for data smoothing)
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 on addition to totalling the pulses (count mode)
Alarms	Multiple alarm options including Rate of Change, Profile, Minimum Night Flow and Threshold. 16 alarms per logger. Can be programmed to auto dial up to 8 telephone numbers on alarm. Over 16 alarms per logger depending on channel configuration

HWM Global

ISO 9001 QUALITY MANAGEMENT
ISO 14001 ENVIRONMENTAL MANAGEMENT
ISO 27001 INFORMATION SECURITY MANAGEMENT
ISO 45001 HEALTH & SAFETY MANAGEMENT
CYBER ESSENTIALS

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MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL