

## Real Time Water & Industrial Pipe Pressure & Flow Loggers

2025 - 26  
Book 1 ver.1

## Network Performance & Optimization | Leakage Reduction | Event Analysis



Data Loggers

Pressure Controller

Quality in Waste Water and Sewage Monitoring. Delivered.

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## Queens Award for Innovation 2017 | Kings Award for Innovations 2023



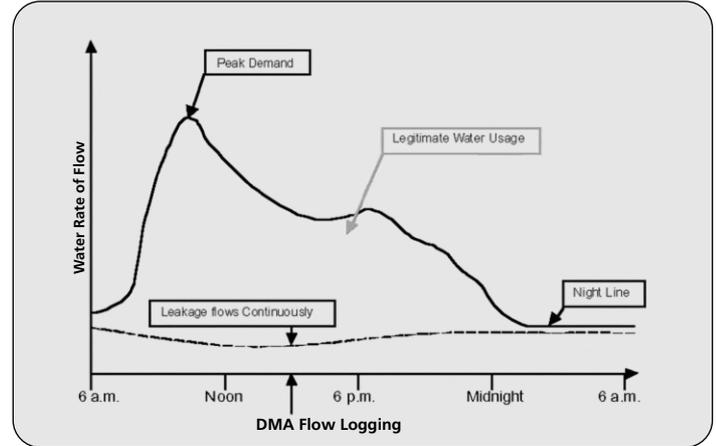
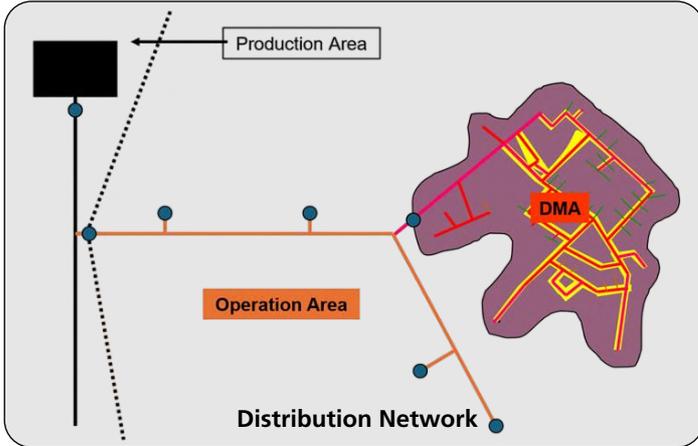
A range of data loggers and pressure controllers for monitoring and data collection in water networks is offered in association with HWM Water, a global leader in monitoring and telemetry solutions for water, wastewater, and gas networks. HWM Water is a part of the Halma PLC group, a conglomerate with over £1.5B in revenues & one of Great Britain's most admired companies.

With its primary focus for over 40 years on clean water and network distribution, HWM Waste Water Sensors and data loggers are being used worldwide for monitoring assets, delivering data and bringing control in management of water utility networks, and have contributed to significant reduction in NRW losses and increase in revenues.

ACL Stanley is responsible for sales, value add engineering, tech support and after sales, for ensuring efficient deployment and utilisation of HWM equipment for water network customers in India.

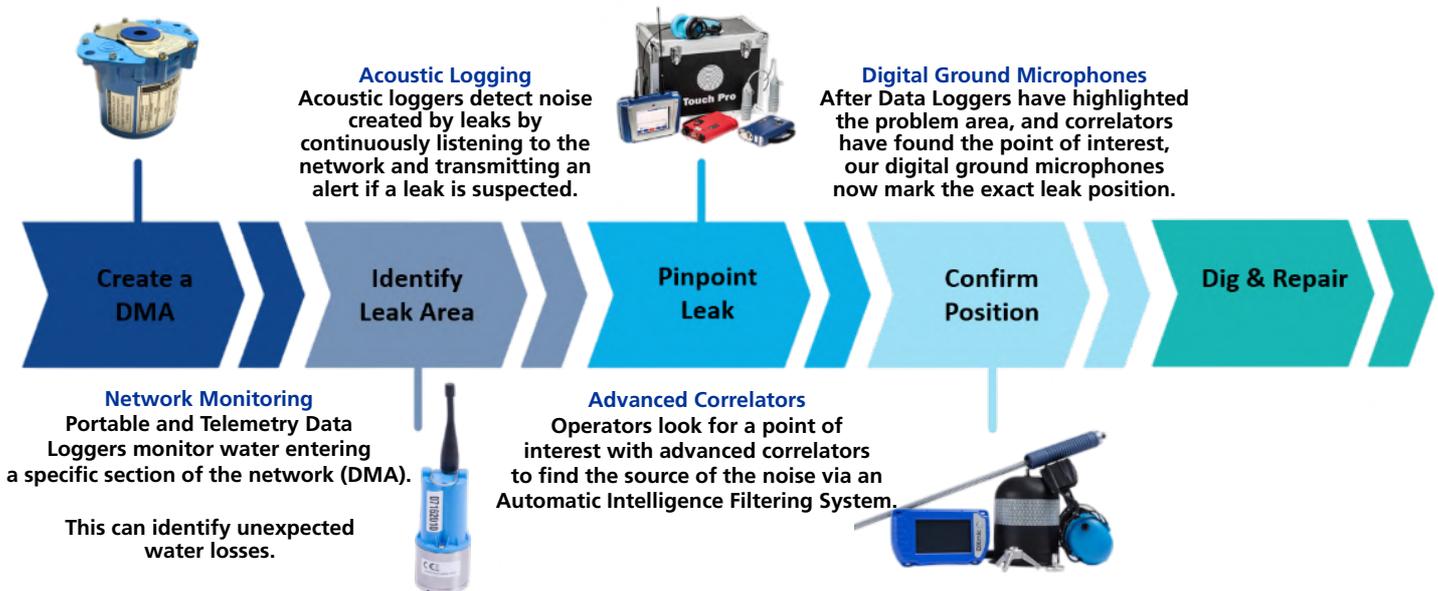
## Monitoring Water Networks & Detecting Leaks Using DMAs

To efficiently manage urban water supply and reduce losses, utilities implement **District Metered Areas (DMAs)**—hydraulically isolated subzones within a water distribution network. Each DMA is equipped with bulk flowmeters at the inlet and customer meters at consumption points, allowing for precise monitoring of water usage within the zone.



The primary goal of a DMA is to quantify **Non-Revenue Water (NRW)**—the difference between water supplied and water billed. By analyzing flow data and consumption patterns, utilities can detect anomalies, **prioritize leak detection**, and streamline repair operations. In addition to leak identification, DMAs help maintain pressure balance across the network, enabling equitable water distribution based on demand. This not only improves service levels but also reduces the **risk of pipe bursts and unauthorized usage**.

### How to find leaks



### How to find leaks - Step-by-Step Process

This infographic outlines the systematic process for detecting and repairing water leaks in a network:

- |  |  |
|--|--|
| <p><b>1 Create a DMA (District Metered Area)</b><br/>Tool Used: Network Monitoring</p> | <p><b>4 Confirm Position</b><br/>Tool Used: Digital Ground Microphones</p>   |
| <p><b>2 Identify Leak Area</b><br/>Tool Used: Acoustic Logging</p>                     | <p><b>5 Dig &amp; Repair</b><br/><b>Action:</b> With the leak's position confirmed, excavation is carried out followed by repairing the damaged pipeline or component.</p> |
| <p><b>3 Pinpoint Leak</b><br/>Tool Used: Advanced Correlators</p>                      |  |

# DATA LOGGERS

## Why Data Loggers are used?

India's urban growth has significantly strained its sewage infrastructure, with many cities facing frequent issues like **manhole overflows, flooding from stormwater, and unmonitored wastewater discharge**. These issues not only disrupt public life but also pose serious health and environmental hazards. In such a context, data loggers, such as those provided by HWM (UK), play a transformative role in modernizing and safeguarding the nation's underground water infrastructure.

### Challenges in the Indian Scenario

- **Overflowing Manholes:** Blocked or surcharged sewers often lead to dangerous manhole overflows, especially during monsoon.
- **Unmonitored Flow Events:** Without real-time data, utilities struggle to predict or react quickly to sudden flow spikes or backflows.
- **Health Hazards:** Untreated sewage on streets contaminates surface water and spreads diseases.
- **Manual Monitoring Limits:** Traditional inspection methods are slow, hazardous, and provide only a snapshot view.

**Role of HWM Data Loggers**  
HWM's range of wastewater and sewer data loggers offers compact, rugged, battery-powered devices **designed for remote, real-time monitoring**. These loggers measure level, flow, surcharge events, and blockage indicators in sewer and stormwater systems.

### Key Benefits:

- **Early Warning for Overflows:** With sensors installed at manholes, HWM loggers send alerts before water breaches the surface.
- **Flood Prevention:** Monitoring stormwater levels helps authorities take proactive drainage actions during heavy rainfall.
- **Data-Driven Maintenance:** Historical and live data help prioritize desilting, repairs, and blockage removals.
- **Remote Access:** Integrated telemetry (GPRS/3G/4G) enables remote data retrieval, reducing field visits.
- **Cost-Efficiency:** Preventing a single overflow can save thousands in clean-up, liability, and environmental fines.

### A Path Toward Smarter Sewer Systems

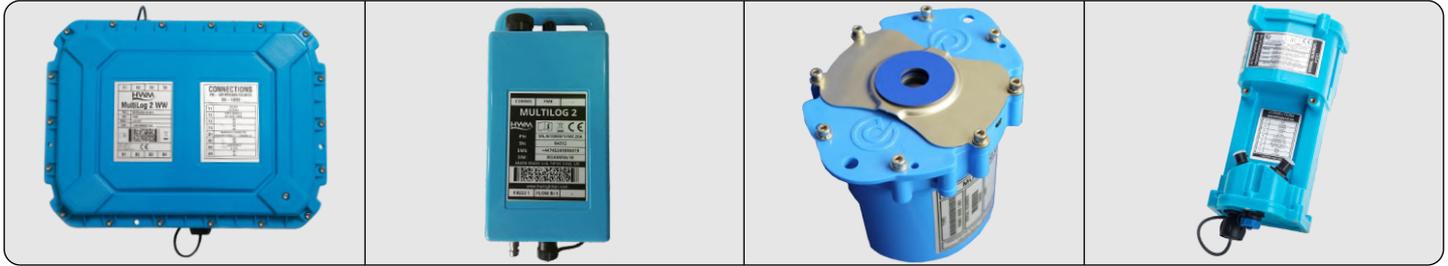
With Smart Cities and AMRUT (Atal Mission for Rejuvenation and Urban Transformation) pushing urban infrastructure upgrades, integrating HWM data loggers offers a scalable, reliable, and intelligent approach. These devices empower municipal bodies and utilities to shift from reactive to predictive sewer management, ultimately reducing public health risks and improving service reliability.

# DATA LOGGERS | Comparison Sheet



Feature	LOLOG 450	LOLOG VISTA	COMLOG 2
<b>Device Type</b>	Entry level portable logger	Portable logger with integrated display	Compact pressure and flow data logger
<b>Telemetry</b>	None (local only)	None (local only)	2G GSM/GPRS (intermittent transmission)
<b>Inputs</b>	Same as Vista	1–2 channels: analog/digital/pulse	2 external inputs (typically pressure or flow from external sensors)
<b>Logging Speed</b>	1s to hrs	1s to hrs	Configurable; commonly 15 mins to 1 hour intervals
<b>Memory</b>	16k–64k default, expandable to ~1M	16k–64k default, expandable to ~1M	~240,000 readings
<b>Housing</b>	Plastic IP68; 210 g	Metal IP68 w/ screen; ~0.8 kg	IP68 weatherproof, compact enclosure
<b>Display</b>	No	Yes, on-device LCD	No onboard display
<b>Battery Life</b>	~5 years	~5 years	5–7 years (depending on logging and comms frequency)
<b>Use Case</b>	Simple portable logging	Portable field logging with local readings	Basic pressure and flow logging, DMA monitoring
<b>Ideal for</b>	Quick pressure/flow logging without telemetry	Field diagnostics, site campaigns without telemetry	Water utilities, pressure zoning, low-cost network monitoring

# DATA LOGGERS | Comparison Sheet



MULTILOG 2 WW	MULTILOG 2	MULTILOG LX2	INTELLIGENS WW
Wastewater level data logger	Multi-channel logger with telemetry	Compact cellular logger with serial input	Advanced remote wastewater level logger
2G/3G GPRS (intermittent)	LTE-M / NB-IoT (+ 2G fallback)	LTE-M / NB-IoT (+ 2G backup)	4G / NB-IoT / LoRaWAN (real-time capable)
2 channels: Radar / Ultrasonic / Pressure sensor	4+ channels including digital, analog, serial (Modbus)	2 digital + 1 analog + serial	Multiple inputs: Radar, Float, Ultrasonic, external digital
15 mins (configurable)	1s; up to 25Hz transient capture	1s standard; 25Hz (optional)	1 min to 60 min, event-based burst logging supported
~240,000 readings	~1 million samples	~1 million samples	Large internal memory (typically 1M+ readings, varies by config)
IP68 rugged enclosure, submersible-ready	IP68 PC/ABS, 110x150x105mm, 590g	Same	IP68 high-impact plastic, submersible and ATEX-compliant options
No onboard display	No	No	No onboard display (config via software/tablet)
Up to 5 years	~5 years (ext. packs available)	~3–5 years (cellular use)	5–7 years depending on frequency and network
Sewer/CSO level logging, overflow detection, maintenance	Full telemetry, complex sensor mix, fast logging, network monitoring	Shallow-box, pressure/flow logging with serial	Intelligent sewer monitoring, smart network management, analytics
Municipal bodies, field-level sewer inspections	Municipal utilities/pressure zones needing advanced telemetry & telemetry-triggered logging	Utility districts needing compact telemetry with Modbus	Smart, real-time sewer monitoring in critical locations for utilities and municipalities.

# LOLOG 450 | Data Logger



**LoLog 450 is a highly flexible and cost effective data logger. Completely waterproof, submersible and battery powered it is designed for portable use and can be supplied in single or dual channel variants.**

The analogue channel can be used for internal pressure and external pressure. We also offer a 4-20mA channel and our digital channel is available for flow and status data. The dual option combines one analogue and one digital channel, or two analogue channels.

LoLog 450 incorporates a high level of features including Pulse Interval Timing to establish accurate recording of minimum flow and it can store up to 64,000 readings which may be increased when purchased with extended memory to 1,000,000 readings (depending on the variability of the data.)

LoLog 450 is ideal for both temporary surveys and long-term installations in challenging environments such as hydrants, valve chambers, manholes, and boundary boxes. LoLog 450 assess the performance of pressure reducing valves (PRVs), monitor tank or river levels, verify flow meter accuracy, and detect network events such as bursts or overflows

## Key Features and Benefits

- **Long term monitoring:** 5 year battery life in typical use.
- **Superior system connectivity:** Second channel enables connection to other devices.
- **Expandable memory:** Up to one million data values on single channel variant, if purchased with optional memory upgrade
- **Durable:** The LoLog comes in a rugged plastic case
- **Pressure sensors:** Internal or external pressure sensor, 4-20mA.
- **Local data download:** Via Infra-red interface into Laptop, PC or PDA.
- **Software compatibility:** Fully compatible with Radwin
- **Multiple logging modes:** Cyclic logging, Stop when Full, Start and Stop and Event Logging.
- **Excellent serviceability:** The unit can be opened and directly accessed.
- **Low maintenance:** The high IP68 rating has been achieved without potting, making the unit easy to maintain.
- **Fully Waterproof:** The IP68 rating has been tested at 10 m depth over a 24 hour period.

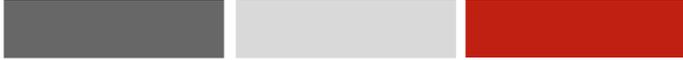


## Applications

The LoLog is available with 0.1% FSC accuracy for network modelling applications. It can be quickly attached to any pulse output meter to enable urgent investigation. **The small, light logger fits easily into boundary boxes** and is widely used to assess demand in residential areas.

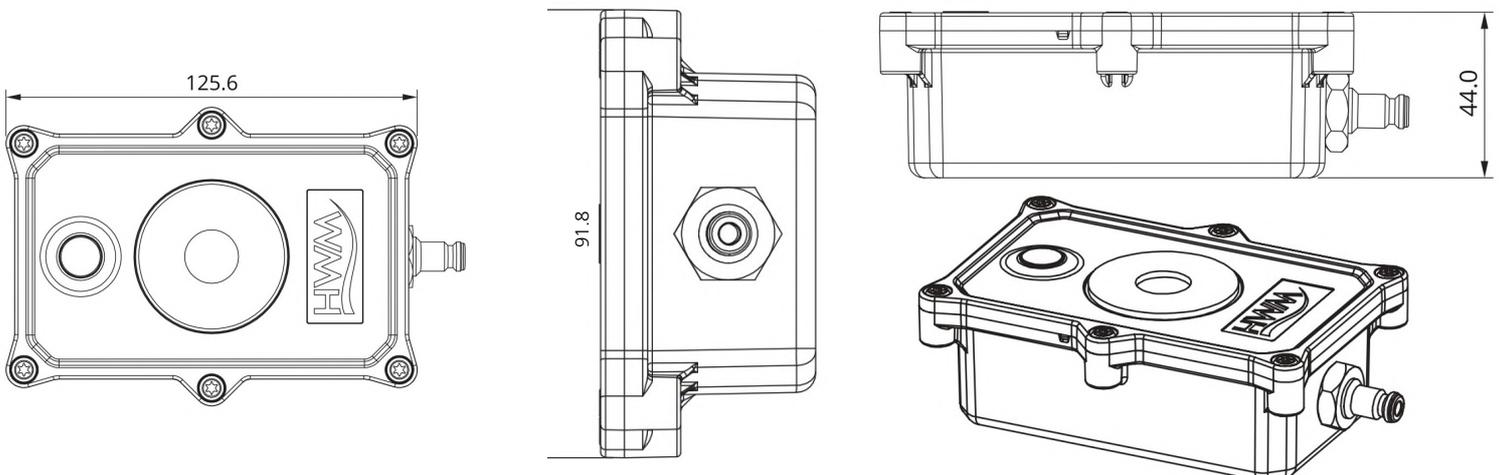
**The LoLog is highly economical and well suited** to connection to networks where telemetry is not desirable or appropriate. The pressure channel variant on the LoLog also monitors PRV performance.

# LOLOG 450 | Data Logger



## Technical Specifications:

Sensor Input Options	
<b>Digital</b>	Uni- or Bi- directional pulse/status   Reed switch contact closure type or equivalent sensors including Kent LRP & PU10 pulse heads. Aquamag/Magmaster   Up to 64 pulses per second
<b>Analogue</b>	Internal or External Pressure Transducer   Typical accuracy 0.2% FSD supplied as standard but 0.1% FSD accuracy available if specified at time of order.   4-20mA from isolated sensor. Please note only one analogue channel can be 4-20mA
<b>Memory</b>	Recording 64,000 readings in continuous (cyclic) operation. Unit can be purchased with optional extended memory to 1,000,000 data values depending on variability of data. Please note that the correct configuration must be ordered at the time of purchase as changes cannot be made after manufacture.
Logger Features	
<b>Frequency</b>	Sample Periods in 1 second increments, from 1 to 60 seconds. Then 1 minute increments from 1 to 60 minutes. Then 1 hour increments from 1 to 24 hours
<b>Logger ID</b>	Up to 7 alphanumeric characters
<b>Site ID</b>	Up to 127 alphanumeric characters
<b>Clock</b>	On board 24 hour real time clock with date facility.
<b>Logging Modes</b>	Count and Event (PIT) logging modes, with Bi-directional capability
<b>Dimensions (HxWxD)</b>	91.8x125.6x44 mm
<b>Construction</b>	Rugged plastic enclosure.
<b>Weight</b>	210g
<b>Operating Temp.</b>	-20° to +60° C
<b>Ingress protection</b>	IP68 submersible
<b>Power</b>	Lithium battery operational for 5 years under typical operating conditions.
Communication	
<b>Serial</b>	Rs232 by Infra-red port for connection to a PDA hand held computer, Laptop, or desktop PC 9,600 Baud.



# LOLOG VISTA | Flexible Data Logger

LoLog Vista is a simple, but highly flexible, portable data logger. Designed for rapid installation, LoLog Vista can be applied to virtually any data logging application in minutes.

Once installed, LoLog Vista can operate unattended until the data is required. It is rugged, making it ideal for harsh environments.

LoLog Vista is available with 1 or 2 input channels and also includes an integral LCD display, delivering a clear local indication of either one or both input channels. LoLog Vista is completely waterproof and submersible.

LoLog Vista is ideal for pressure and flow analysis in hydrants, PRVs, and meters, as well as for detecting surges, overflows, and other transient events. It is equally effective in level monitoring for tanks, rivers, and sewer systems, and can be used for rainfall and environmental logging.

## Key Features and Benefits

- **Long term monitoring:** Up to 5 year battery life in normal use
- **Expandable memory:** Up to one million data values on single channel variant, if purchased with optional memory upgrade
- **Accessible data:** Data download via Infra-Red interface into laptop or PC
- **Durable:** Rugged die cast aluminium case
- **Fully waterproof:** Fully sealed and submersible. IP68 rated
- **LCD display:** Integral LCD screen with continuous display



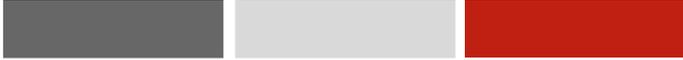
## Applications

LoLog Vista can be quickly applied when it is necessary to carry out an urgent investigation. Programmed in minutes, LoLog can be attached to any pulse output meter and will immediately start logging.

Alternatively, **LoLog Vista can be used as a solid state pressure gauge** or a local indicator for other electrical signals, such as from **digital flow meters**.

LoLog Vista is **highly economical** and is well suited to connection to district metering, where telemetry is not desirable or appropriate.

# LOLOG VISTA | Flexible Data Logger



## Technical Specifications:

Sensor Input Options	
<b>Digital</b>	Uni- or Bi- directional pulse   Reed switch contact closure type or other non-powered sensors including Kent LRP & PU10 pulse heads. Aquamag/Magmaster   Up to 64 pulses per second
<b>Analogue</b>	Analogue 0-20 bar / 0-200 meters head / 0-300 psig, repeatability $\pm 0.1\%$ . Please note that the logger is calibrated to 10bar as standard. 20 bar calibration must be specified at the time of order if required   4-20mA from isolated sensor   0-1v. 1-5v. or 0-100mVolt
<b>Memory</b>	Recording 64,000 readings in continuous (cyclic) operation. Unit can be purchased with optional extended memory to 1,000,000 data values depending on variability of data.
Communication	
<b>Serial</b>	RS232 or USB by Infra-red port for connection to laptop or desktop PC
<b>LCD Display (Vista)</b>	4.5 digit LCD showing one or toggling between both input channels: real time, latest reading, min value last 24 hours or totaliser (flow meter reading)
Features	
<b>Frequency</b>	Sample Period - in 1 second increments, up to 24 hours
<b>Logger ID</b>	Up to 8 alphanumeric characters
<b>Site ID</b>	Up to 127 alphanumeric characters
<b>Clock</b>	24 hour clock with date facility
<b>Count and Event Logging Modes</b>	Count and Event (PIT) logging modes, with bi-directional capability
<b>Calibration</b>	Totaliser calibration - tenths of litre per pulse
<b>Dimensions (HXWxD)</b>	160x108x45 mm
<b>Construction</b>	Die-cast aluminium enclosure, powder coat spray painted
<b>Weight</b>	0.8kg
<b>Operating Temp.</b>	-20° to +70° C
<b>Power</b>	Lithium battery operational for 5 years under normal operating conditions. Data recoverable at factory with low battery condition.

# COMLOG 2 | Versatile Data Logger

**COMlog 2 is the highly versatile data logger designed to be a cost-effective, multi-application data logging solution.**

Developed for flexibility, COMlog is compatible with any sensor or meter that has a volt-free pulsed output.

Particularly effective for smart metering, COMlog 2 provides businesses with an efficient way of managing water and energy consumption and reducing costs.

## Key Features and Benefits

- **Multi-application:** Compatible with a wide range of meters and sensors
- **Easy software integration:** Designed for easy integration into third party software applications via Datagate API
- **Telemetry:** NB-IoT LTE-based cellular communication standard with fallback 2G capability
- **Excellent value:** Reliable and cost-effective
- **Accessible data:** Near real-time data at low cost
- **Flexible alarm modes:** High Flow, Low Flow and Profile Alarms
- **Online data viewing:** Via HWM Online - the multi-utility data monitoring system
- **Long term monitoring:** Typical 5 year battery life
- **External antennas:** Support improved signal strength - (contact for more information)
- **Wireless programming:** Units can be upgraded and programmed without the cost of a site visit
- **Responsive:** Accelerated dial in on alarm



## Application

COMlog 2 is compatible with any meter that has a volt-free pulsed output and uses accumulative pulse counting technology to calculate index readings against a known volume.

COMlog transmits data through an integral modem with **GPRS/2G, 4G, LTE-M (Cat-1) and other NB-IoT options available.**

The replaceable internal batteries will typically power the device for over five years when **data is transmitted every eight hours.**

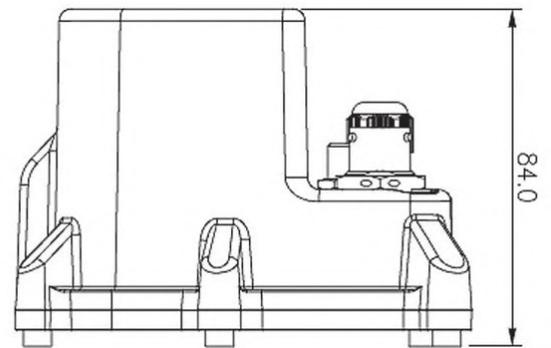
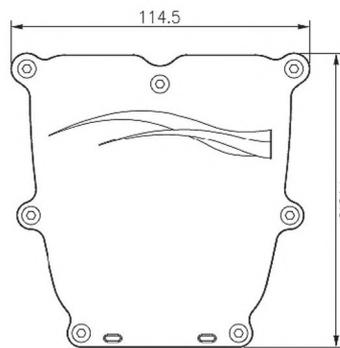
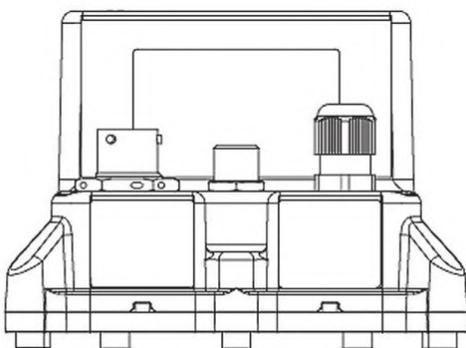
COMlog 2 is also supplied with an external antenna connection that enables the use of a range of specialist antennas to address the most extreme low signal level locations.

# COMLOG 2 | Versatile Data Logger



## Technical Specifications:

Logger Features	
<b>Memory</b>	Primary recording: 2 million readings Variable sample rate 1 sec to 24 hrs (please note that this may affect battery life and communications cost).
<b>Alarms</b>	Lower/Upper limit, Min Night Flow, Rate of Change, Channel Difference, In/Out of Band alarm types. 6 programmable conditions sets available, sending SMS alarm message to a mobile phone
<b>logger ID</b>	7 alphanumeric characters. Readable factory set serial number in firmware
<b>Internal Cellular Modem</b>	Cellular modem supporting 2G/3G/NB-IoT/LTE-M (Cat-1) with SMS backup where available - contact HWM for available options
<b>Dimensions (HXWxD)</b>	84x114.5x113.3 mm
<b>Construction</b>	Tough ABS plastic enclosure (blue)
<b>Weight</b>	570g
<b>Operating Temp.</b>	-20° to 60° C
<b>Ingress Protection</b>	IP68 submersible
<b>Power</b>	Lithium Thionyl-Chloride cell operational for 5 years under standard operating conditions, complete with low battery alarm
Sensor Input Options	
<b>Digital</b>	One or two bi-directional pulse input Reed switch contact closure type or other pulse input Up to 64 pulses per second Available with Modbus input



# MULTILOG 2 WW | Multi-Input Data Logging & Telemetry Platform

Multilog 2 WW is a highly-versatile data logger, specifically designed to be compatible with a wide variety of HWM and third-party sensors including: RavenEye, MicroFlow-i, dBi or VEGAPULS.

Equipped with our advanced modem, Multilog 2 WW is capable of connecting via LTE-M or NB-IoT with a 2G fallback or through 3G or 2G for dependable data telemetry and future-proofing in the rapidly evolving cellular landscape.

Housed in a robust IP68 plastic enclosure, the unit offers multiple inputs and switch outputs and is ideally suited to installation in environments where corrosion is a concern. Multilog 2 WW is a highly versatile solution for waste water monitoring applications where ATEX certification is not required.

Multilog 2 WW is a multi - input data logger utilized with Water Quality Sensors.

## Key Features and Benefits

- **Telemetry:** NB-IoT/LTE-M based cellular communication as standard with fallback 2G capability
- **Serial and Analogue input options :** For connection to SonicSens 3 ultrasonic level sensor, internal or external pressure transducers, active/passive 4-20mA, voltage, digital pulses, Modbus, SDI12
- **4 sensor connections :** Up to 8 channels
- **Alarm:** Highly configurable alarms
- **Robust:** Drop tested plastic housing and connectors to prevent corrosion in harsh environments
- **Statistical logging:** Max, min, average and standard dev recording available
- **State Event recording:** For precise recording of events like float trigger or rain gauge
- **Bulgin antennas:** Support improved signal strength - (contact for information of our wide-ranging options)
- **Local data download:** 6 pin military plug connected to laptop or desktop PC
- **Fully waterproof:** The IP68 rating has been tested at 10m depth over a 24 hour period



- **Control outputs:** Replicated pulse inputs or trigger on alarm, allows operation of third-party sensors, e.g. water samplers
- **Long-term monitoring:** Up to 5 year battery life
- **External battery option:** External battery input to support accelerated dial-in or powering of third-party sensors
- **Remote upgrades:** Firmware and programming changes made remotely for efficiency and cost-effectiveness
- **Secondary channel:** Enables additional fast logging down to 25Hz

## Data Logging With Telemetry Benefit:

With multiple input capability, Multilog 2 WW is a highly effective, battery powered data logging/RTU solution. Typical applications include:

- Level, Velocity and Flow monitoring
- Water Quality Monitoring
- Control Outputs for third-party systems (e.g. water sampler)
- Modbus and SDI12 sensor telemetry
- External power options

Ideal for environmental and waste applications where ATEX certification is not required.

# MULTILOG 2 WW | Multi-Input Data Logging & Telemetry Platform



## Technical Specifications:

Input Options	
<b>Serial</b>	HWM SonicSens 3 ultrasonic level sensor and Leak Noise Sensor (LNS). Third party sensors using Modbus or SDI12 communication protocol.
<b>Analogue</b>	Internal pressure transducer. 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) External pressure transducer (contact for more details), Voltage (0-1V or 0-10V), Passive or active 4-20mA Temperature
<b>Digital</b>	Uni- or bi-directional pulse Up to 64 pulses per second
Communication	
<b>Local</b>	Hi-speed USB for connection to hand held devices, Windows tablets, laptop or desktop PC
<b>Internal Cellular Modem</b>	Cellular modem supporting 2G/3G/NB-IoT/LTE-M (Cat-M1) with SMS backup where available - (contact for available options). 2G/3G/4G NB-IoT can send data down to every 15 mins, with appropriate battery pack
<b>Accelerated dial-in</b>	Dial-in rate is increased if alarm situation is triggered. Logger can accelerate dial-in at alarm level for multiple applications - including SonicSens 3, Flow, Pressure and other alarmed sensors.
Features	
<b>Sample Frequency</b>	Variable logger sample rate from 1s to 24hrs (this may affect battery life and communication costs)
<b>Dimensions (HXWxD)</b>	239x319x100 mm
<b>Construction</b>	PC/ABS plastic enclosure
<b>Weight</b>	Maximum: 3.8kg
<b>Operating Temp.</b>	-20° to +60° C
<b>Ingress Protection</b>	IP68 submersible
<b>Power</b>	Internal Battery: 7.2V External Battery: 7.2V 15V
<b>Memory</b>	Standard recording: 2 million readings (optional up to 64 million readings and expandable HC SD card)
<b>Fast Logging (Secondary channel)</b>	Secondary, fast channel supports sampling up to 25 Hz and record average. minimum, maximum, standard deviation or time interval between pulses (for data smoothing)
<b>State Event Recording</b>	Count and Event logging modes independent for both channels. In low flows this is available for precise recording of events like float trigger or rain gauge
<b>Alarms</b>	Multiple alarm options including Rate of Change, Profile, Minimum Night Flow and Threshold. Over 16 alarms per logger depending on channel configuration. Can be programmed to auto dial up to 8 telephone numbers on alarm. Multiple alarm destinations can be set in DataGate.

# MULTILOG 2 | LTE-M & NBloT-enabled Multi-channel Data Logger



Multilog 2 is the highly advanced and versatile multi-channel data logger designed to monitor any combination of digital and analogue signals.

Monitor PRV (Pressure Reducing Valve) flow and/or pressure in a district or zone of a water network to assess demand, leakage and conformance, Multilog 2 contains an advanced modem (capable of connecting via LTE-M or NB-IoT with 2G fallback, 3G or 2G)

Multilog 2 data logging is available with support for WITS 1.3 (Water Industry Telemetry Standard), delivering direct integration with WITS SCADA systems.

Multilog 2 is utilized for Water Flow & Pressure Monitoring with devices such as Hydrophones.

## Key Features and Benefits

- **Telemetry:** NB-IoT/LTE-based cellular communication standard with fallback 2G capability
- **Serial input option:** For connection to digital meters, SonicSens 3 level sensor, Modbus, SDI12, RS232, Badger/Sensus/Neptune serial meter interfaces
- **4 channel logging:** 8 or 16 channels available on request
- **Fast logging:** Primary logging to 1 second as standard - 25Hz for transient events
- **Alarm:** Full alarm functionality
- **Robust:** Rugged die cast aluminium case
- **True readings:** True Max and Min flow and investigation of pressure spikes
- **Pulse interval timing:** Smooths reading of infrequent pulses
- **External antennas:** Support improved signal strength (contact for more information)
- **Local data download:** 10 pin military plug connected to laptop or desktop PC
- **Fully waterproof:** The IP68 rating has been tested at 10m depth over a 24 hour period
- **Long-term monitoring:** 5 year battery life



- **Optional outputs:** Replicate inputs or trigger on alarm, allows operation of third party sensors, e.g. water samplers
- **WITS 1.3 protocol:** Support for WITS 1.3 delivering direct integration with WITS SCADA systems

### Data Logging With Telemetry Benefit:

After installation, all firmware upgrades and programming changes are made remotely. As well as ensuring that changes can be made efficiently- this is also **cost-effective**, as it removes the need for additional site visits.

Multilog 2 transmits data through an integral modem with 2G, 3G 4G, LTE-M (Cat-M1) and other NBloT cellular options available.

An innovative feature of Multilog 2 is a secondary channel, enabling **additional fast logging down to 25Hz**.

Secondary logging can be **triggered on time schedule** and/or in response to an alarm condition being triggered. This is invaluable when more detailed investigation is required, such as pressure spikes and 'true' minimum night flow.

# MULTILOG 2 | LTE-M & NBloT-enabled Multi-channel Data Logger



## Technical Specifications:

Input Options	
Digital	HWM SonicSens 3 ultrasonic level sensor and Leak Noise Sensor (LNS). Third party sensors using Modbus or SDI12 communication protocol.
Analogue	Internal pressure transducer. 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) External pressure transducer (contact for more details), Voltage (0-1V or 0-10V), Passive or active 4-20mA Temperature
Serial Input	Uni- or bi-directional pulse Up to 64 pulses per second
Communication	
Local	Hi-speed USB for connection to hand held devices, Windows tablets, laptop or desktop PC
Internal Cellular Modem	Cellular modem supporting 2G/3G/NB-IoT/LTE-M (Cat-M1) with SMS backup where available - (contact for available options). 2G/3G/4G NB-IoT can send data down to every 15 mins, with appropriate battery pack
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 3, Flow, Pressure and other alarmed sensors.
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 (HXWxD)	257x129x77mm
Construction	Die-cast aluminium enclosure, powder-coat spray painted
Weight	1.6kg
Operating temp.	-20° to +60° C
Ingress Protection	IP68 submersible
Power	Typical 5 years (depending on settings and signal condition). External power connection for battery box and third-party devices
Memory	Standard recording: 2 million readings (optional up to 64 million readings and expandable HC SD card)
Fast Logging (secondary channel)	Secondary, fast 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 in 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

# MULTILOG LX2 | Versatile Data Logger

Multilog LX2 is a versatile telemetry based data logger incorporating a convenient serial input that support compatibility with a wide variety of Water network sensors and meters, including Modbus.

Multilog LX2 delivers effective data recording and efficient transmission is designed to fit inside shallow installations for Monitoring Water flow and/or pressure in a district or zone to assess demand, leakage & performance.

## 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 (4G) 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 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



## Datalogging + Telemetry Benefit:

Multilog LX2 transmits data through an **integral modem** with GPRS/2G, 4G, LTE-M (Cat-1) and other NBloT cellular options available.

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.



# MULTILOG LX2 | Versatile Data Logger



## Technical Specifications:

Input Options	
<b>Digital</b>	One bi-directional pulse for Flow. Two single-directional pulse inputs for Flow logging. Up to 64 pulses per second
<b>Analogue</b>	Internal Pressure Transducer. External pressure. 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)
<b>Serial Input</b>	Proprietary serial interface for SonicSens ultrasonic level monitors, Permalog+ leak noise loggers, Serial meters etc. Modbus for third-party devices
Communication	
<b>Local</b>	Infra-red reading head for connection to laptop, desktop PC or Windows tablet
<b>Internal Cellular Modem</b>	Cellular modem supporting 2G/3G/ NBIoT/LTE-M (Cat-1) with SMS backup where available - contact for available options
<b>Accelerated dial-in</b>	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
Features	
<b>Frequency</b>	Variable logger sample rate from 1s to 24hrs (this may affect battery life and communication costs)
<b>Logger/Site ID</b>	7 alphanumeric characters. Readable factory set serial number in firmware
<b>Dimensions (HXWXD)</b>	110x150x105mm
<b>Construction</b>	PC/ABS plastic enclosure
<b>Weight</b>	590g
<b>Operating temp.</b>	-20° to +60° C
<b>Ingress Protection</b>	IP68 submersible
<b>Power</b>	Typical 5 years (depending on settings and signal condition). External power connection for battery box and third-party devices
<b>Memory</b>	Primary recording: 1 million readings (non-volatile memory)
<b>Fast Logging (secondary channel)</b>	Secondary, fast channel supports sampling up to 25 Hz and record average, minimum, maximum, standard deviation or time interval between pulses (for data smoothing)
<b>Pulse Interval Timing</b>	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)
<b>Alarms</b>	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

# Intelligens WW | ATEX Certified Data Logger

Intelligens WW is a data logger specifically for waste water applications, for use in hazardous environments such as Sewer overflow monitoring.

Intelligens WW is intrinsically safe for use in explosive environments, (ATEX zone 0) is an ideal logging solution for combined sewer overflows, general sewer monitoring, storm drains, storage tanks and flood warning systems.

Designed for long term deployment, with a 5 year battery life. Data is transmitted via its built in 4G/LTE cellular capability.

Intelligens WW is available with support for WITS 1.3.

Intelligens WW is a ATEX Certified datalogger that can be used to log data from a variety of sensors such as RadarSens Sewage level sensor and other pressure or level sensors.

## Key Features and Benefits

- **Certification:** Certified for use in Zone 0 hazardous areas
- **Telemetry:** NB-IoT LTE-based cellular communication standard with fallback 2G capability
- **Two-way communication:** Unit can be remotely programmed; suitable for 'fit and forget' applications
- **Flexible sensor integration:** Intelligens is compatible with a wide variety of sensors and inputs
- **Online data delivery and viewing:** Compatible with DataGate and HWM Online
- **Intelligent:** Unit includes advanced data logging and alarm regimes
- **Long-term monitoring:** Typical 5+ year battery life
- **Fully waterproof:** Unit is rated IP68, making it waterproof when submerged
- **Easy maintenance:** User replaceable SIM and battery, along with notifications of system health
- **Anti-corrosion:** Plastic connectors ensure unit is not susceptible to corrosion
- **Upgradable:** Unit can be configured, and its firmware upgraded remotely
- **WITS 1.3 protocol:** Support for WITS 1.3 delivering direct integration with WITS SCADA systems



## Applications

Intelligens WW is truly flexible, making it the ideal data logger for hazardous utility network applications. Compatibility with ESI and ESIB accessories means that a variety of different sensors can be deployed.

Intelligens transmits data through an integral modem with **2G, 3G, 4G, LTE-M (Cat-1) and other NB-IoT** options available.

Intrinsically safe for use in **explosive environments** (ATEX/IEC Ex Zone 0), Intelligens is designed to be both **insusceptible to corrosion and fully waterproof**.

Remote communications and a long-life battery make Intelligens perfectly suited to 'fit and forget' applications in remote or hard to access locations.

# Intelligens WW | ATEX Certified Data Logger



## Technical Specifications:

Logger Features	
Rating	ATEX/IEC certified to Zone 0
Memory	Up to 2 million readings
Firmware	Safe local and remote upgradable firmware
Sampling Rate	Variable sample rate 1s to 24hrs, accelerating on alarm
Alarms Logger ID	Multiple Lower/Upper Limit, Min Flow, Rate of Change, Channel Difference, In/Out of Band alarm types. Accelerated dial-in on alarm.
Secondary Channel	Log fast data, average minimum, average maximum or event duration
Dimensions (HxWxD)	200x97x88 mm
Weight	1kg
Operating Temp.	-20 to +60°C
Ingress Protection	IP68
Power	User replaceable battery pack operational for 5+ years under standard operating conditions, complete with low battery alarm. External power option available with a sustainable ATEX certified power source
Communication	
Internal Cellular Modem	Cellular modem supporting 2G/3G/4G/NB-IoT/LTE-M (Cat-1) with SMS backup where available
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 3, Flow, Pressure and other alarmed sensors
Sensor Input	
mV	Example: pressure sensor for level measurement
Serial Digital Interface	Modbus SDI12 and Rs232
4-20 mA	Example: mems tils transmitter, radar sensor
Digital	Example: float switch, rain gauge
Level Sensor	Ultrasonic level detection using HWM SonicSens 3
Control Output ports	
Digital	2 independent configurable outputs

## Intelligent PRV Controller & Sewer Monitoring for India's Urban Water Systems

India's water utilities are under pressure — literally. With rising demand, ageing infrastructure, and varying terrain, maintaining consistent and safe water pressure is a daily challenge. Uncontrolled pressure not only leads to pipe bursts and leakage, but also increases **Non-Revenue Water (NRW)** and customer complaints.

Pegasus 2, developed by HWM, is a next-generation PRV controller with integrated telemetry and overflow monitoring, designed to meet the unique demands of Indian water distribution networks. It enables real-time modulation of **Pressure Reducing Valves (PRVs)** based on time, flow, or remote commands, ensuring zones receive just the right amount of pressure — not too high to cause bursts, not too low to frustrate consumers.

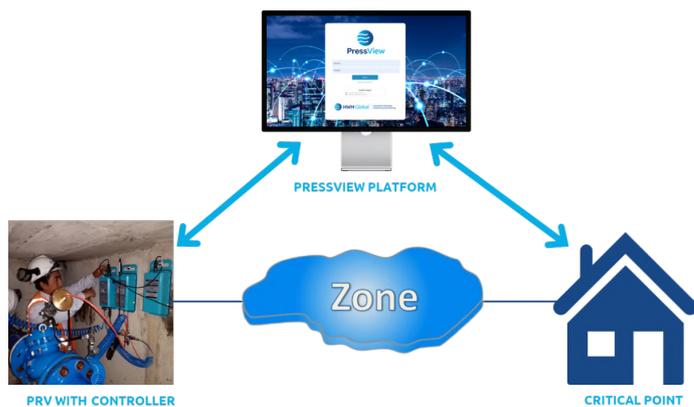
Whether it's balancing pressure across a DMA in Bengaluru, or remotely adjusting night flow in Ahmedabad's intermittent zones, Pegasus 2 enables intelligent, localized control without manual intervention.

### Key Features for Indian Applications:

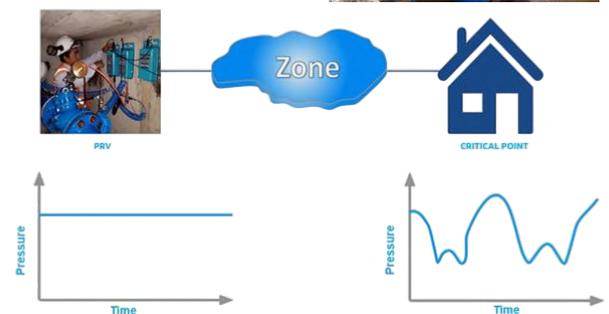
- PRV Control by Time, Flow, or Remote Input – Ideal for managing intermittent or zoned supply
- Supports Radar & Float Sensors – Detects rising sewer levels or overflows in real time
- 4G/NB-IoT/LoRaWAN Telemetry – Reliable data transmission even in low-signal areas
- Battery-Powered & Rugged (IP68) – Withstands Indian field conditions and climate extremes
- Integration with HWM's Cloud Platform – Enables remote data access, alerts, and reports

### Ideal for:

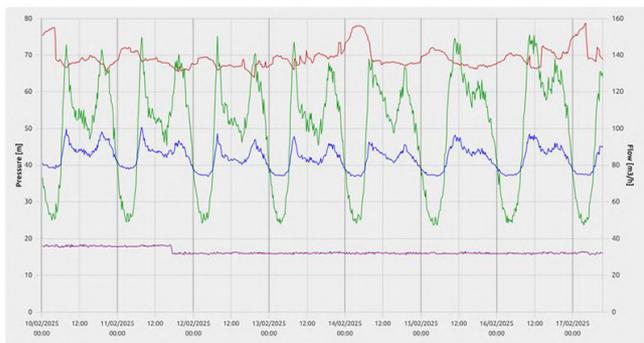
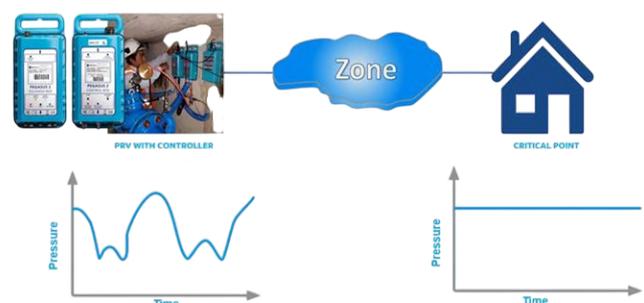
- Urban local bodies under Smart City or AMRUT missions
- Water utilities seeking to reduce NRW and automate pressure control
- Cities facing seasonal sewer overflows or PRV mismanagement
- Contractors deploying IoT-enabled infrastructure for long-term savings



### Fixed Outlet PRV



### PRV with Controller



Display time in GMT

- ☑ ZCXLWD07 Rushey Green PRV - PRV Inlet Pressure
- ☑ ZCXLWD07 Rushey Green PRV - PRV Flow
- ☑ ZCXLWD07 Rushey Green PRV - PRV Outlet Pressure
- ☑ ZCXLWD07 Mountfield Close CP - Critical Point Pressure

# PEGASUS 2 | LTE-M & NB-IoT-enabled Pressure Control System

Pegasus 2 is an advanced pressure control system that utilises our innovative modem (capable of connecting via LTE-M, NB-IoT, 4G, 3G and 2G) for reliable and low-powered two-way communication.

With the capability to set target pressure by time, flow or a combination of both (with different table settings per day), Pegasus 2 delivers a sophisticated level of targeted control, even on a time basis.

Pegasus 2 features a secondary channel for fast logging down to 25Hz. This is invaluable for investigating system transient events.

## Key Features and Benefits

- **Telemetry:** NB-IoT/LTE-M based cellular communication as standard with fallback 2G capability
- **Modulated control:** Provides great flexibility to modulate pressure according to demand throughout the day with changes being made remotely
- **Multi-point time based PRV:** Control without flowmeter 96 values per day, 7 days per week
- **Pressure failsafe:** Set by user on installation, including manual safe override on site
- **Intelligent pressure control:** Proven to minimise leakage and reduce the frequency of pipe bursts
- **Latching solenoids:** Optional feature to fully open or close the PRV top chamber in tight headloss, or network fault conditions
- **Integrated low cost telemetry:** Enables rapid monitoring and remote control as required
- **Closed loop control:** Optional closed loop control automatically modulating pressure from remote critical point data
- **System configuration:** Easy to set up locally via tablet or PC app and remotely via PressView Cloud Server

## Water Network Flow Logger



- **Transient logging:** High speed logging to 25Hz to identify network transient events
- **Value Performance Monitoring:** Logging top chamber pressure and solenoid activations to continually monitor value performance

## Datalogging + Telemetry Benefit:

Pegasus 2 uses a Windows Tablet or PC based IDT app for **easy programming** and is compatible with the PressView Cloud System for easy and convenient data access and **remote configuration**.

Pegasus 2 transmits data through an integral modem with 2G, 3G, 4G, NB-IoT and LTE-M (Cat-M1) options available.

In addition, PressView web based software provides **location fleet mapping, installation photos, graphing, remote table control, alarm setting and maintenance alerting**.

Individual user actions are logged and any changes made on the operation of Pegasus 2 are logged against the user, making any actions fully accountable and historically registered.

# PEGASUS 2 | LTE-M & NBloT-enabled Pressure Control System



## Technical Specifications:

Sensor Input Options	
<b>2X Digital</b>	2x Uni- or bi-directional pulse. Count or Event logging modes
<b>2x Analogue Inputs (additional third channel available onrequest)</b>	Internal Pressure Transducer. External pressure. 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) Leak noise, 0-10V, 0-1V, temperature or 4-20 mA variants
<b>Hydraulic</b>	
<b>3x Solenoid Outputs</b>	1x Latching Solenoid, to vent or close the top PRV chamber. 2x Pulsed Solenoid outputs, up/down control. Safe levels and alerts set to protect battery depletion.
Communication	
<b>Mobile</b>	Cellular modem supporting 2G/3G/ NBloT/LTE-M (Cat-1) with SMS backup where available - contact for available options
<b>Serial</b>	RS232 or USB interface for programming and integration with PC/Laptop or Windows Tablet using IDT software. Programmable up to 19,200 b.p.s
Controlling Features	
<b>Summer/Winter</b>	Clock is programmable for seasonal time changes
<b>Time Based Control</b>	Up to 96 table entries for 7 individual days per week or setting based on Week Days or Weekends. Calendar special event table also available
<b>Flow Based Control</b>	Flow based control, or Flow override option
<b>Fail Safe</b>	Default Fail Safe can be configured to 'Set' or 'Release' the latching solenoid upon error (e.g faulty sensor/no flow) or revert to time profiles if flow fails or revert to fixed pressure (operator selected)
Logger Features	
<b>Frequency</b>	Variable logger sample rate from 1s to 24hrs (this may affect battery life and communication costs)
<b>Logger/Site ID</b>	7 alphanumeric characters. Readable factory set serial number in firmware
<b>Ingress Protection</b>	IP68 fully submersible
<b>Dimensions (HxWxD)</b>	315x153x87mm
<b>Construction</b>	Aluminium alloy casing
<b>Weight</b>	Approx 3.5kg
<b>Operating Temp.</b>	-20° to 60°C
<b>Power</b>	Lithium-thionyl chloride cell operational for 5 years under typical operating conditions
<b>Alarms</b>	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
<b>Memory</b>	Primary recording 179,760 readings (Cyclic or Block)



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