

Intelligens Flow

ATEX-certified Flow Monitoring System

Intelligens Flow is a flow monitoring system designed for use in waste water applications.

Built around an Intelligens WW data logger, flow velocity is measured by a Doppler-effect sensor that uses ultrasonic pulse technology. To generate level, a Piezo resistive probe is fitted, including a desiccant tube to maintain proper sensor function.

Non-contact level measurement can be achieved using a SonicSens ultrasonic sensor. Software within the unit can automatically be added depending on the nature of the application.



Applications

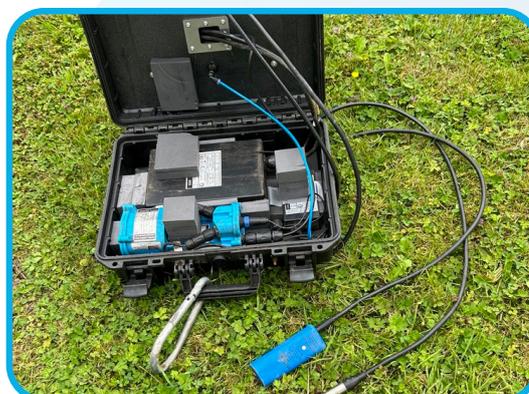
Intelligens Flow is designed to measure flow in part-filled pipes and open channels. This capability makes it the accepted technology for flow measurement in many sewer and drainage applications.

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

At the heart of the Intelligens logger unit design is the versatility to attach additional sensors such as level, water quality and other parameters.

Key Features

- **Certification:** certified for use in Zone 0 hazardous areas (visit HWM Global website for certification details).
- **Optimised for flow:** unit can be used for short and long-term flow surveys.
- **Telemetry:** NB-IoT LTE-based cellular communication as standard with fallback 2G capability.
- **Flexible sensor integration:** Intelligens WW 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+ years battery life.
- **System diagnostics:** relays signal strength, temperature and battery level for deployment and maintenance.
- **Easy maintenance:** user replaceable SIM and battery, along with notifications of system health (non-ATEX applications only).
- **Additional sensor capability:** Intelligens Flow is also compatible with float and level sensors.
- **Enhanced sensor reliability:** purpose designed breather tube for pressure sensors, with reliable desiccant.



Intelligens WW

ATEX-certified Flow Monitoring System

Specifications

Sensor Input:	Doppler-effect velocity sensor and Piezo resistive depth probe. Up to 4 user configurable pulse/status inputs.
Memory:	Primary recording 2 million readings (larger sizes available upon request). Future-proof in field, local and remote upgradable software.
Power:	User replaceable battery pack operational for 5+ years under standard operating conditions. Complete with low battery alarm.
Analogue:	Variable sample rate 5s to 24hrs.
Secondary Channel:	Can be programmed to record either fast data, average minimum, average maximum or time interval between pulses.
Internal Cellular Modem:	Full range of latest generation cellular based telemetry solutions. 5G/LTE-M or NBIoT or 4G/LTE Cat-1.
Operating Temp:	-20 to +60°C (-5 to +140°F).
Rating:	ATEX/IECEX certified to Zone 0.
Dimensions:	200H x 97W x 88D (mm) - 7.9" x 3.8" x 3.5"
Weight:	1kg (2.2lb).
Ingress Protection:	IP68.

Sensor Input

mV:	Example: pressure sensor for level measurement.
Serial Digital Interface:	Example: Conductivity measurement.
4-20 mA:	Example: mems tils transmitter, radar sensor.
Digital:	Example: float switch, rain gauge.

Other Items

Breather:	For pressure sensors, includes replaceable desiccant.
------------------	---

Velocity Sensor

Measuring Principle:	DSP Doppler using twin 1 MHz transducers.
Range:	Bi-directional to 0.01 to 5m/s (0.03 to 16.4 ft/s).
Accuracy:	± 2% of reading if V ≥ 0.5m/s ± 0.01 m/s (± 0.03 ft/s) if V < 0.5m/s.
Resolution:	1 mm/s (0.003ft/s).
Minimum Fluid Level:	15 mm (0.59") to 20 mm (0.79") above base of sensor, provided transducers fully wetted.
Units:	m/s or ft/s.
Temp Range:	-20 to +60°C (-5 to +140°F).
Temp Accuracy:	± 0.5oC (± 0.9oF).
Temp Resolution:	0.5oC (0.9oF)
Speed of Sound Correlation:	Fixed or variable.
Operating Temp:	-20 to +60°C (-5 to +140°F).
Dimensions:	19H x 46W x 122L (mm).
Weight:	1.1kg (including cable).
Ingress Protection:	IP68 / NEMA6.
Rating:	ATEX and IECEx certified to Zone 0.

Depth Sensor

Measuring Principle:	Typically mounted on DVP mounting plate, but can be located separately to suit installation.
Range:	0-150mBar or 0-350mBar. Other ranges and ATEX version is optional.
Accuracy:	0,1% FS
SonicSens:	Contact HWM Global for information.