

# Intelligens Flow

## ATEX Certified Flow Monitoring

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.



### Key Features and Benefits

- **Certification:** certified for use in Zone 1 hazardous areas (visit HWM website for certification details)
- **Optimised for flow:** unit can be used for short and long term flow surveys
- **Telemetry:** NBloT LTE-based cellular communication standard with fallback 2G capability
- **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
- **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)
- **Anti-corrosion:** plastic connectors ensure unit is not susceptible to corrosion
- **Additional sensor capability:** Intelligens Flow is also compatible with float and level sensors
- **Robust design:** stainless steel chassis protects and improves the handling of the unit during installation
- **Enhanced sensor reliability:** purpose designed breather tube for pressure sensors, with replaceable desiccant

### 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 GPRS/2G, 3G, 4G, LTE-M (Cat-1) and other NBloT 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.

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### Logger Features

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
Communication	Cellular modem supporting 2G/3G/NB-IoT/LTE-M (Cat-1) with SMS backup where available - contact HWM for more information
Operating Temp.	-20 to +60°C (-5 to +140°F)
Rating	ATEX/IECEx certified to Zone 0
Dimensions	200H x 97W x 88D
Weight	1kg
Ingress Protection	IP68

### 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	± 0.5°C (± 0.9°F)
Temp. Resolution	0.5°C (0.9°F)
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 1

### Sensor Input

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

### 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 for information

### Other Items

Bracket	Stainless steel
Breather	For pressure sensors, includes replaceable desiccant



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MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL