



# Intelligens Flow Flow Monitoring System

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

At its heart is an Intelligens data logger, which interfaces with a Doppler-effect sensor that measures the flow velocity using an ultrasonic pulse that reflects off particles & bubbles in the liquid. In order to generate level information, 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 convert level information to flow. Additional sensors can also be added depending on the nature of the application.

## Key Features and Benefits

- **Optimised for Flow:** Unit can be used for short and long term flow surveys.
- **Safe for use in explosive environments:** Intrinsically safe ATEX/IEC Ex Zone 0.
- **Remote communications:** Data transmitted using GPRS & 3G telemetry (optional).
- **Flexible sensor integration:** Core Intelligens logger is compatible with a wide variety of sensors & inputs.
- **Online data delivery and viewing:** Compatible with DataGate and HWM-Online.
- **Intelligent:** Unit comes with advanced data logging & alarm regimes.
- **Long term monitoring:** 5+ years' logger & external sensor battery life.
- **Fully waterproof:** Unit is rated IP68, making it fully immune to water immersion.
- **System diagnostics:** Relays signal strength, temperature & battery level for deployment & maintenance.
- **Easy maintenance:** User replaceable SIM and battery, along with notifications of system health. (Non-ATEX applications only).
- **Anti-corrosion:** Unit is not susceptible to corrosion, including its communications antenna.
- **Additional sensor capability:** Intelligens flow 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

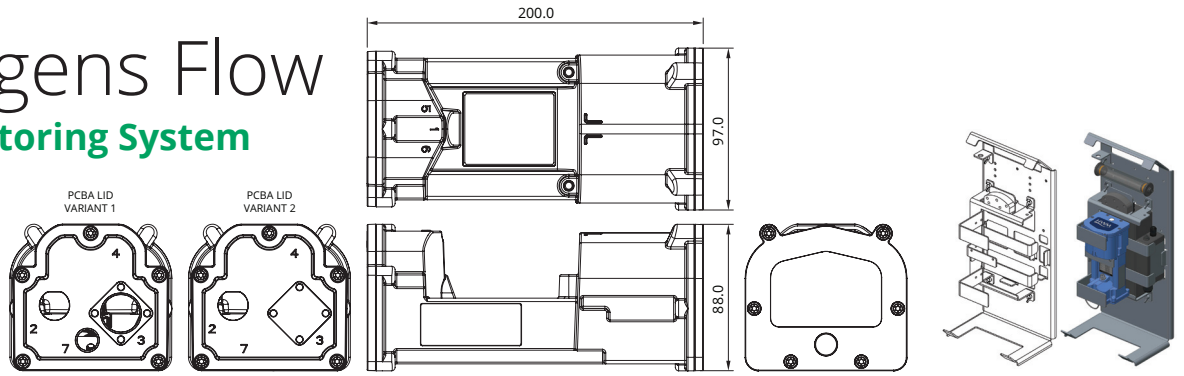
Intelligens flow is designed to measure flow in part-filled pipes and open channels. This capability makes it the accepted technology for flow measurement in many sewer and drainage applications.

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

MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL

# Intelligens Flow

## Flow Monitoring System



### Sensor

<b>Velocity</b>	Measuring principle	DSP Doppler using twin 1 MHz transducers
	Range	Bi-directional 0.01 to 5 m/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 in) to 20mm (0.79in) above base of sensor, provided transducers fully wetted
	Units	m/s or ft/s
<b>Temperature</b>	Range	-20 °C to +60 °C (-4°F to 140°F)
	Accuracy	± 0.5 °C (± 0.9°F)
	Resolution	0.5 °C (0.9°F)
	Speed of Sound Correction	Fixed or Variable
	Operating temperature	-20 to +60 °C (-4°F to 140°F)
	Dimensions	Polyurethane, PVDF, 316 Stainless steel 19H x 46W x 122L (mm)
	Weight	1.1kg including cable
	Ingress Protection	IP68 / NEMA6
	Rating	ATEX & IECEx certified to Zone 1

### Depth Sensor

<b>Level</b>	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
Or Sonic Sens		Measurement Range: 300mm to 2.5m or 800mm to 5m.

### 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 on 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	GPRS to HWM DataGate or customer specific server. SMS Back Up. Quad band modem optional 3G Modem
Operating temp.	-20°C to +60°C (-5°F to +140°F)
Rating	ATEX/IECEx certified to Zone 0
Dimensions	Tough ABS plastic enclosure (mm) 200H x 97W x 88D
Weight	1kg
Ingress Protection	IP68

### 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

### Other Items

Bracket	Stainless steel
Breather	For pressure sensors, includes replaceable desiccant.



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## Allied Power Technology Limited

Unit B, 11/F Long To Building  
654-656 Castle Peak Road  
Lai Chi Kok, Kowloon, Hong Kong

Tel: +852 3746 9033  
Fax: +852 852 2120 8765  
Email: [contact@alliedpower.com.hk](mailto:contact@alliedpower.com.hk)

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[www.alliedpower.com.hk](http://www.alliedpower.com.hk)

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