

# intellitectwater



## Intellisonde

**Direct insertion Sonde and Data Logger for permanent deployment. Network Monitoring - No chemicals or membranes!**

### Real time multi parameter data at your fingertips

The Intellisonde provides long term live monitoring of water quality in one lightweight, easy to install unit. By utilising the latest third party communication technologies, remote data retrieval of 12 parameters can be transmitted to anywhere in the world in real time.

### The Benefits

- A pro-active approach to water quality management.
- Ability to monitor real time data for actual or impending water quality problems at a local level.
- Ability to appraise and minimise risk of contamination posed by bursts or repairs.
- Integration with operational network modelling providing real time data for operational control and risk assessment.
- Cost effective implementation of distribution operation and maintenance strategies.

Drawing on the company's patented technology, the Intellisonde offers robust data with no waste stream.

The integral stirrer/generator feature enables a constant water flow to be generated around the sensor head by scavenging power during off-peak/no flow periods. This unique patented feature, along with advanced materials technology, helps to reduce the risk of fouling and associated maintenance visits as found with existing chemical alternatives.

With micro-technology open platform design the whole system is lightweight and easy to install, with the electronics enclosure waterproof to IP68.

### Low Cost Installation

Within just ten minutes, the Intellisonde can be installed into a distribution system, including calibration and testing. It can also be removed within five minutes if the extension piece remains in the valve.

The probe can fit into large pressurised pipes (via a 3 or 5cm valve) as well as pipes only 5cm in diameter for street level monitoring. The threaded extension and shaft adaptor is located in the valve and securely tightened. The adjustable collar allows the sonde to be set to a pre-determined depth, ensuring the sensor head sits in the middle of the flow. The depth can be adjusted whilst the valve is opened. An additional feature is incorporated via a chain to provide pressure safety back up.



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## Intellisonde

### Low Cost Ownership

Power is provided via battery pack or 9-24V DC power supply.

Due to advanced low power consumption technology the Intellisonde is able to run on the recommended battery supply for up to six months providing low cost of ownership. The probe is easily calibrated on-site, has a total weight of 3.5kg and overall length of 600mm.

### Sensor Performance - next generation

Using the company's patented sensor technology, the chlorine, mono-chloramine and dissolved oxygen sensors are made using a novel solid state technology for long life and accuracy. The sensors are membrane free and insensitive to pressure and flow. They have a fast response time, typically <20 seconds, 95% of step change.

### 12 Parameters Monitored

#### Physical:

- Flow
- Pressure
- Temperature

#### Chemical:

- Chlorine
- Chloramines
- Dissolved Oxygen
- Conductivity
- Ammonium ISE
- pH
- ORP (REDOX)
- ISE (e.g. Fluorides)
- Spare port \*

#### Optical:

- Turbidity
- Colour

\* The sonde has a spare port for developing specific sensing parameters. The company is currently looking at water security and bacterial specific detection.

### Communication Interfaces Supported

- Ethernet
- GPS (asset tracking) - optional
- GPRS
- Analogue 4-20 milliamp

### Data Logging

- Twelve parameters measured and logged at intervals from 1/minute to 1/hour
- Transmission in real time (via GPRS)
- Data sent to TCP/IP address anywhere on the www

### Intellisonde Specification

Parameter	Performance
Flow (forward and downstream sensors, flow direction information dependent on installation)	0 to 2 m/sec $\pm$ 10%
Temperature	-5 + 50°C $\pm$ 0.2°C
Free Chlorine	0 to 5 mg/l $\pm$ 10% or $\pm$ 0.05 mg/l, whichever is the greater
Free Chlorine & Mono-Chloramines (Total Chlorine)	0 to 5 mg/l $\pm$ 10% or $\pm$ 0.05 mg/l
Dissolved Oxygen	0 to 20 mg/l $\pm$ 10%
pH	2 to 12 pH $\pm$ 0.2 in typical installations
ORP	-1.0 volt to + 1.0 volt $\pm$ 1mV
Conductivity	0 to 10 mS/cm $\pm$ 5%
Colour (dependent on water quality and flow)	0 to 50 Hazen $\pm$ 1 Hazen
Turbidity	0 to 50 NTU $\pm$ 0.5 NTU
Pressure (4-20mA or 0-100mV input, external transducer)	0 to 10 Bar
ISE (Sensor output reported directly, configurable for mV or V)	0 to 1 volt $\pm$ 1mV