inteliSYS
...enabling continuous water quality intelligence

hydraclam®

CLAMNET

The HydraClam is part of the Clamnet system of sensors, telemetered data loggers and web data portal. A wide range of third party modbus sensors can be added to the system via the inbuilt RS485 comms.



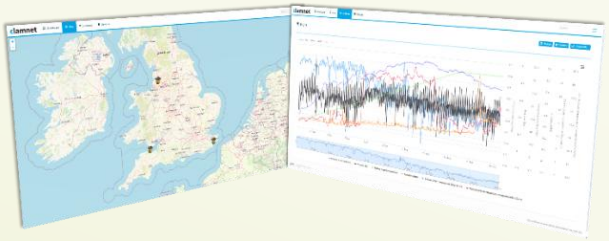
HYDRACLAM v4

The Hydraclam records multiple parameters at the same location to help teams investigate changes in distribution water quality. Comparing turbidity, conductivity, pressure and temperature, with disinfectant residual where fitted, provides context for baseline surveys, operational changes and mains interventions. The unique and patented flushing control is important to ensure that turbidity data is a true reflection of the water in the main at that time.

The HydraClam can be used at any access point in watermains network to continually monitor and report turbidity, chlorine, conductivity, temperature and pressure data. Used alone, or in conjunction with other sensors attached, the HydraClam is an ideal component of any Smart Network for drinking water quality. The bidirectional communications allow firmware upgrades, configuration changes and remote diagnostics as well as routine data uploads to the Clamnet Portal and instant alarming.

CLAMNET PORTAL

Data from the HydraClam is stored and viewed on the secure Clamnet Portal. With flexible device management and visualisation tools the portal can manage large Clam fleets. Data can transferred via our freely available API for incorporation into corporate SCADA systems.



KEY FEATURES

- Access the distribution network at any point via a 6mm hose connection enabling rapid deployment and recovery
- Measurement of turbidity, chlorine, conductivity, pressure and temperature all in one device
- High resolution turbidity sensor designed specifically for potable water
- Patented flushing control to ensure water from the main is sampled
- Ability to switch external devices against control levels
- Bi-directional 4G cellular communications for remote configuration, data upload and alarming
- Wi-Fi Interface device for local set up, control and data collection
- Robust IP68 enclosure
- Powerful Clamnet Portal data management and visualisation
- SCADA data integration either via our API or directly, bypassing cloud storage

TECHNICAL SPECIFICATION – MODELS HC4, HC4-Cl

TURBIDITY SENSOR

Measurement method	Nephelometric
Range	0.1 - 10 NTU
Accuracy	± 5% of reading or ± 0.1 NTU
Resolution	0.05 NTU

CONDUCTIVITY SENSOR

Measurement method	4 pole
Range	20 – 3500 µs/cm
Accuracy	± 2% of range
Resolution	1 µs/cm

PRESSURE SENSOR

Measurement method	Silicon micro machined element
Range	0 – 10 bar Absolute
Accuracy	± 1.25% of full scale
Resolution	0.1 bar

CHLORINE SENSOR (V4+CL ONLY)

Chlorine	Free or Total Residual
Method/Type	Potentiostatic Membrane Sensor
Range	0.05 - 3.00 mg/l
Accuracy	± 5% of full-scale reading or ± 0.05 mg/l
Repeatability	± 0.05 mg/l
Resolution	0.01 mg/l

CALIBRATION

Turbidity and Conductivity

Factory calibrated using standards at 0, 1 and 10 NTU, 1413 and 0 µ/cm

Annual calibration check recommended

Chlorine

User lab commissioning using hypochlorite solution

On-site against portable digital meter (e.g. Palintest Chlorometer Duo) after 30 mins.

INTERNAL POWER

6 x LSH20 3.6V High Discharge Lithium Ion Battery
Expected duration 12 months

ENVIRONMENTAL

Waterproofing	IP68 (1m, 1hr)
Operating Temperature	0 - 40 °C
Storage	-5 to +65 °C
Storage Cl Sensor	+5 to +40 °C
Mains Pressure	1 - 6 bar
Sample Flow	0.1 to 6 litres per sample

EMC

HydraClam	BS EN 61326-1:2021
	EN 301 489-1 v2.2.3 | EN 301 489-7 v 1.3.1

SERVICE INTERVAL

Cl Sensor	Reagent 6 months, Membrane Cap 12 months
Clean sensor heads	Recommended every 6 months but will be dependent on operating conditions

PHYSICAL

Weight	2 kg approx.
Dimensions	Max 210 x 210 x 180mm (H,W,D)

OPTIONAL SENSOR INPUTS

Flow	4 – 20 mA. 0 - 10 V or pulse
pH	
Chlorine flow sensor	

Contact us regarding details or further option choices.

COMMUNICATIONS

Cellular data	4G network
Modem	4G Internal antenna, external option

DATA MEMORY

Up to 50,000 data points within the device

Programmable between 1 minute and 1 hour

DATA STORAGE

Secure web portal on AWS, data can be extracted via API

Contact: info@intelisys.co.uk

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