

# Smart, waste water septicity monitoring for sewer networks. **SeptiNet.**



## The ultimate in smart septicity monitoring for both liquid (ORP) and gas (H<sub>2</sub>S).

ATI's SeptiNet is an innovative breakthrough in smart, continuous and accurate waste water septicity monitoring for sewer networks. SeptiNet monitors both Hydrogen Sulphide (H<sub>2</sub>S) gas and Oxidation Reduction Potential (ORP), offering the ultimate smart septicity monitoring solution.

Due to ATI's unique manufacturing base of both water and gas analytical sensors, SeptiNet allows waste water utilities to monitor both liquid and gas in one combined solution anywhere within the sewer network. Data generated from SeptiNet is linked directly to the customer's preferred RTU and transferred to an intermediate cloud for analytics, integrated into the customer's own SCADA reporting protocol.

To predict, prevent and control septicity of an entire sewer network is complex, however ATI's SeptiNet removes any guess work, enabling the complete management of septicity. By combining both liquid and gas smart sensor technology, and as part of a Combined Sewer Overflow (CSO) monitoring solution, SeptiNet improves the control of assets and processes, enabling access to data for both online and offline analysis and modelling.

Designed specifically for applications in both waste water treatment and sewer networks, SeptiNet generates continuous and accurate data for septicity prevention, allowing the management of odour and corrosion, whilst reducing the formation of hazardous atmospheres and negative environmental impacts.

SeptiNet helps to protect the wastewater treatment process, the extra sewer storage, reduces overflow and pollution to rivers and is suitable for installing anywhere within a sewer network, including:

- Inlets to wastewater treatment works
- Inlets to CSOs
- Outlets / overflows of CSOs
- Pumping station
- Manholes within the network

SeptiNet uses smart sensor technology, combined with data intelligence, for large scale mass deployment across sewer networks. This innovative solution has been developed using telemetry to drive sustainable use of the world's natural resources, offering customers an end-to-end approach to manage wastewater assets in hazardous environments, whilst also reducing pollution for a better, greener world.

### Key benefits

- Monitors both liquid & gas in one complete solution
- Early alerts allowing mitigating action, avoiding risks of complaints, corrosion and explosion
- Data value increases with the number of measuring points, building a better picture, control and management of the sewer network
- Alarm set points
- Calibration timer can alert users when calibration is due
- Future-proof in terms of communication
- Stores data at user defined intervals from 0.1-60 minutes
- Stores over 300K values, or 30 days of data

## Technical Specifications:

| F12D Hydrogen Sulfide Gas Detector* |   |
|-------------------------------------|---|
| Sensor Type                         | Electrochemical cell  |
| Range                               | User adjustable within limits of sensor   |
| Accuracy                            | ±5-10% of value   |
| Repeatability                       | ±1% (electronic)  |
| Linearity                           | ±5% (electronic)  |
| Zero Drift                          | Less than 2% full scale per month   |
| Span Drift                          | Less than 3% per month  |
| Analogue Output                     | 4-20 mA, 600 ohms max at 24 VDC   |
| Serial Interface                    | (Optional) HART® digital signalling over the 4-20mA current loop, Optional Modbus RTU over RS232/485  |
| Power Requirements                  | DC/RS-485: 24-30 VDC, 100 mA max. 115 VAC (±15%), 50-60 Hz, 6 VA max. 230 VAC (±15%), 50-60 Hz, 6 VA max. 12-30 VDC (with relays): 250 mA max |
| Enclosure                           | IP65, polycarbonate with stainless steel hardware. Weatherproof and corrosion resistant   |
| Temperature                         | -30°C to +60°C  |
| Environment                         | 10 to 95% RH (non-condensing)   |
| Weight                              | 1.5lb (0.68kg)  |
| ORP Sensor                          |   |
| Measuring Range                     | -1000 to +1000 mV   |
| Sensitivity                         | 0.2 mV  |
| Stability                           | 2 mV per 24 hours, non-cumulative   |
| Wetted Materials                    | PEEK, ceramic, titanium, glass, Viton, EDPM, Platinum (optional: gold, 316SS body)  |
| Temperature Range                   | -5°C to +95°C (23°F to 203°F)   |
| Pressure Range                      | 0 - 100 psig  |
| Maximum flow rate                   | 10 ft (3 metres per second)   |
| Max Sensor Analyser Distance        | 3,000 ft (914 metres)   |
| Weight                              | 1 lb (0.45 kg)  |
| Technolog Cello 4S RTU**            |   |
| Memory                              | 512K, allocable between channels as required (max 64K per channel)  |
| Data Transmission                   | 2G, 3G, NB-IoT and LTE Cat M1 networks (subject to build option)<br>1 min to 1 month at programmable date and time                            |
| Temperature                         | Operating ambient temperature -20 °C to + 50 °C   |
| Modem                               | Integral antenna, optional external antenna, user replaceable SIM card  |
| IP Rated                            | IP68 (submersion at 1m depth for 48 hours)  |
| Power                               | User replaceable lithium battery pack, typical life > 5 years depending on use  |
| Dimensions                          | 149mm x 146.5mm (h)   |
| Weight                              | 750g  |

\*SeptiNet is also available with the F12iS intrinsically safe gas detector or B12 2-wire gas transmitter. \*\*SeptiNet is compatible with a wide range of other manufacturers RTUs.

Ati UK is a leading provider of engineered, analytical sensor monitoring solutions for water and gas applications and data insights. Our pioneering and industry leading range of Network Monitors, Water Quality Monitors and Gas Detectors provide innovative solutions for the most demanding of applications.

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