

# ORAKEL

SYSTEM

# OIL ON WATER SENSOR

The Oil on Water sensor is a non-contact sensor that uses oil's natural fluorescence to detect all types of oil instantly - giving you the chance to act immediately.



## KEY FEATURES

- Detects all oils (see below)
- Highly sensitive, detects oil thickness as low as 1µm
- Wide field of view (1m<sup>2</sup>); can be deployed in networks
- Uses UV light technology
- Power consumption: <2W
- Relay, RS-485 and 4-20mA outputs
- Certification: IP68, CE, UL
- Warranty: 2 years

## APPLICATIONS

The sensor works day or night, on land or on water and at all temperatures to pinpoint pollution sources. Types of oil that the sensor detects:

- Motor oils
- Fuel oils
- Heating oils
- Gas oils
- Turbine oils
- Marine diesel oil
- Lube oils
- Mineral oils
- Vegetable oils
- Crude oils
- Hydraulic oils

## ADDITIONAL FEATURES

The Oil on Water Sensor is pressurised with nitrogen, to prevent condensation and water penetrating the aluminium enclosure. The sensor is IP68 certified, reducing the amount of maintenance required and delivering years of worry-free use. Should anything knock your sensor into water, it will float for easy recovery.

Low power consumption of <2W allows remote

operation 'off the grid' (with optional solar panels and battery). The sensors are fitted with a self-check mechanism and will let you know if there is a problem. All they need is a simple wipe down every few months and an annual top-up of nitrogen.

Plus, with a standard 2 year warranty and a sector-leading 5 year lifetime for our UV LEDs, there's no need to budget for replacement any time soon.



[www.detectronic.org/orakel](http://www.detectronic.org/orakel)

## METHOD OF OPERATION

Electronic devices and fuel vapours don't mix well. The **Oil on Water Sensor** sits high above water to start with but, as an extra precaution, we've built it to be a neutral observer. Even in a potentially explosive environment contaminated by oil products, it will not emit anything that could spark a fire.

To detect oil slicks as thin as a single micron from up to 10m above the water, the **Oil on Water Sensor** pulses a UV beam at the surface and excites any oil molecules in the target area.

Using oil's native fluorescence, it picks up the signal from tell-tale substances and alerts the site operator.

Our sensor system and advanced software algorithms are carefully calibrated to detect oil and minimise false alarms. In fact, its level of accuracy is stunning: The average thickness of an oil slick is 0.1mm, whilst the **Oil on Water Sensor** can detect some oils down to only 0.001mm.\*

*One tonne of spilt oil will rapidly spread out to a slick with an area of about 10,000m<sup>2</sup>.*

## TECHNICAL SPECIFICATION

### Model

O-2300 Exd Zone 1.

### Sensitivity

>1 micrometer oil film.

### Range

Up to 8m above surface (water or ground).

### Operation Temperature

-25°C to +60°C.

### Enclosure

ATEX and IECEx flameproof enclosure - Zone 1.

II 2 G Ex d IIB.

Class 1, Division 1 Groups CD.

IP68, stainless steel 316L.

### Dimensions

669.5 x 142.5 x 132mm.

### Weight

12kg.

### Power Options

12 VDC (10V - 30V) as standard.

Other options: 110/220 VAC 60/50Hz.

AC/DC adapter, solar/battery options available.

### Power Usage

<2 Watt (DC).

### Light Source

Pulsed UV LED.

### LED Lifetime

5 years typical.

### Output

Relay contacts, RS-485, 4-20mA (as standard).

### Communication Options

RS-232, ethernet/LAN, audio alarm, wireless radio link, Wi-Fi and GSM.

### User Interface

Sensor configurator for set-up and adjustment.

Sensor manager for network visualisation.

### System Certifications

CE: EN 61000-6-2, 61000-6-3, EN 61326-1, 61000-4-2, 61000-4-5, 61000-4-6, 61000-4-8, EN 61010-1.

US EPA: (EPA/530/UST-90/009) pending.

### Enclosure Certifications

EX DNV-2003-OSL-ATEX-0436U:

EN/IEC: 60079-0, 60079-1,

IP68: EN 60529.

### Warranty

2 year factory warranty as standard, supported worldwide.

\*Different oils have varying levels of fluorescence.

To learn more about the **Detectronic ORAKEL System** and how it can help your business, get in touch:

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