



# OxySense

## Dissolved Oxygen Meter

The OxySense range of online DO meters utilises the very latest and best optical DO sensors available in the world today. They are optical luminescent devices which are extremely resistant to abrasion, extremely stable, and have greatly reduced maintenance and whole life costs.

- **No chemicals or moving parts**
- **Optional self-cleaning sensor and self-verification**
- **Stable and reliable - excellent process control**
- **Suitable for all Dissolved Oxygen applications**
- **Up to 36 months between DO meter maintenance**
- **Up to 36 months between DO meter calibration**



*"Simply the best DO sensor I've used"*

**Jon Shan, USA**

The OxySense optical DO sensors are available with different controllers giving you the same great performance with different communication, display, and control options. With the OxySense range of online DO meters, you get everything that you need - and nothing that you don't. For aeration lane blower control and oxidation ditch dissolved oxygen control, the OxySense offers unrivalled performance.

### CRONOS® OxySense



- High Quality - Lowest Cost
- Multilingual
- High resolution grayscale display
- 9 buttons for easy navigation
- Graphing and datalogging
- Enclosure; wall, panel, pipe or pole mounting. IP65/Nema 4x.
- Options:
  - **Modbus RS485/LAN**
  - **Profibus DPV 1**
  - **Up to 2 sensors**
  - **PID/flow proportional controls**
  - **Remote sensors**
  - **Colour display**

### CRIUS® 4.0 OxySense

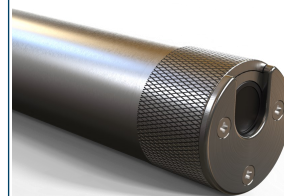


- High Quality - Lowest Cost
- Multilingual
- High resolution colour display
- Intuitive user interface
- Downloadable data logs
- Customisable home pages
- All CRONOS® options plus:
  - **Up to 4 sensors**
  - **Remote access via LAN**
  - **Remote access via 3G/4G**

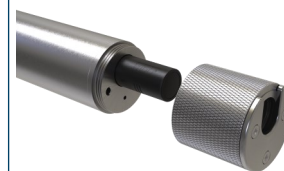
***For more information please see the individual brochures for CRONOS® and CRIUS® 4.0***

### Sensor Selection

#### OxySense S



- **Submersion mounting**
- **Ideal for unpressurised applications**
- **Suitable up to depths of 210m (25°C)**



- **Stainless steel**
- **1 1/4" NPT mounting thread**
- **T<sub>90</sub> <45 seconds**

#### OxySense A

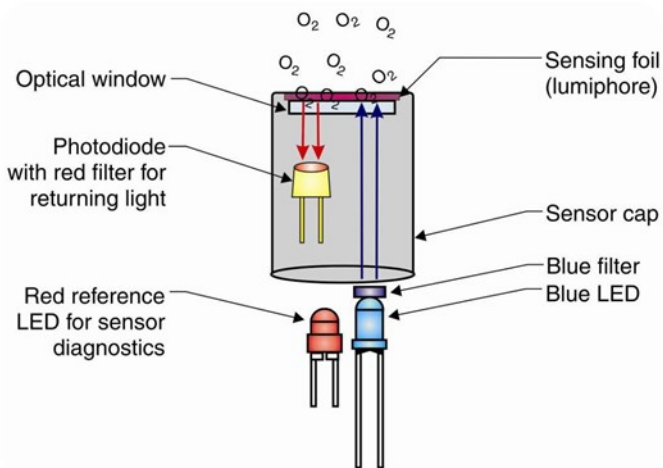


- **Delrin construction**
- **Flow cell mountable**
- **T<sub>90</sub> <45 seconds**



## Principle of Operation

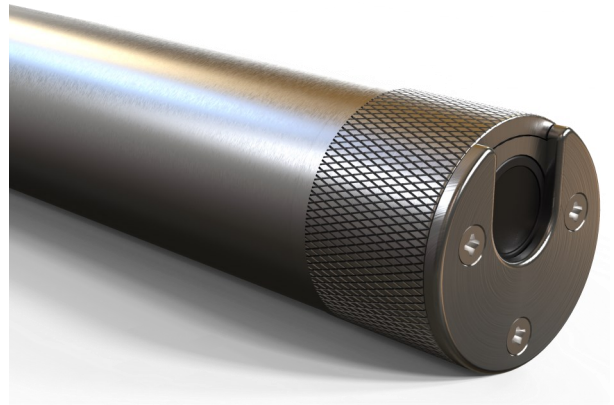
The sensing element (lumiphore) is activated, or excited when illuminated with a blue light. When activated, the lumiphore then emits red light in an intensity that is inversely proportional to the amount of oxygen present in the water. There is also a time delay between the peak emission of blue light and peak response of fluoresced red light. The amount of delay is inversely proportional to the amount of oxygen present. This time delay can be expressed as a phase shift between the wave patterns of incident blue light and the fluoresced red light. This is in turn reported by the electronics into a ppm or mg/l reading of Dissolved Oxygen.



The advantages of this technology are that it is more stable than traditional electrochemical devices and far more resistant to abrasion. By using the state of the art sensor and electronics together the reliability, accuracy, and flexibility of the OxySense is far superior to that of its competitors.

## Auto-clean and Auto-verification

The OxySense Meter is the first of its kind in the world to offer automatic in situ sensor verification as an option. The OxySense is able to reduce maintenance by automatically checking its sensor operation at user defined time intervals. Calibration of the sensor is normally required only once per annum so with the automatic sensor verification option and the self clean option the sensor may not need to be inspected at all for years!



## Specification\*

### OxySense S Dissolved Oxygen Sensor

<b>Type:</b>	Lumiphore Optical Dissolved Oxygen
<b>Measurand:</b>	Dissolved Oxygen
<b>Range:</b>	0-50mg/l or 0-500% Saturation
<b>Resolution:</b>	0.01mg/l
<b>Accuracy and Precision:</b>	±0.1mg/l from 0-8mg/l (1.25%), ±0.2mg/l from 8-20mg/l and ±10% from 20-50mg/l
<b>Temperature Range:</b>	>0 up to 50°C
<b>pH Range:</b>	pH2 up to pH10
<b>Salinity Range:</b>	0-42ppt
<b>Temperature Compensation:</b>	Automatically by an integrated thermistor
<b>Permissible Overpressure:</b>	10 bar
<b>Typical Response Limited:</b>	0-50mg/l
<b>Response Time:</b>	T <sub>90</sub> <45s, T <sub>95</sub> <60s at 25°C
<b>Zero-point Adjustment:</b>	Not necessary
<b>Calibration:</b>	Manual using water saturated air
<b>Response Check:</b>	Automatic with optional Autoclean
<b>Material of Construction:</b>	Stainless steel
<b>Dimensions:</b>	Diameter approx. 38mm OD, length 259mm
<b>Maintenance intervals:</b>	Manual calibration 3-36 months, lumiphore change 24-48 months
<b>Warranty:</b>	The shorter of 24 months from the date of manufacture or 12 months from date of first use
<b>Interferences:</b>	Alcohols >5%, hydrogen peroxide >3%, sodium hypochlorite >3%, gaseous sulphur dioxide and gaseous chlorine

RDO® is a registered trademark of In Situ Inc. Boulder Colorado

**\*All subject to change without notice**



[www.processinstruments.co.uk](http://www.processinstruments.co.uk)

