

Dissolved Oxygen Meter

The OxySense range of online DO meters utilizes 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



The OxySense optical DO sensors are available with different controller options giving you great performance with different communication, display, and control features. 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.

CRIUS® Controller



- High resolution color display
- Intuitive user interface
- Graphing and datalogging
- NEMA 4X Enclosure
- Options:
 - Modbus RS485/LAN
 - Profibus
 - PID/flow controls
 - Remote sensors
 - Downloadable data logs
 - Up to 4 sensors
 - Remote access via LAN
 - Remote access via GPRS
 - Expandable to 16 sensors

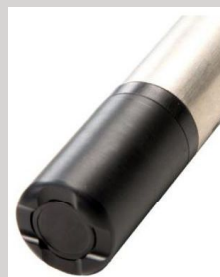
Additional controller information may be found on the CRIUS product data sheet.

Sensor Selection



OxySense

- Submersion mounting
- Ideal for unpressurized applications
- Suitable up to depths of 650 ft (77 F)
- Acetyl construction
- 1 1/4" NPT thread
- T₉₀ <45 sec

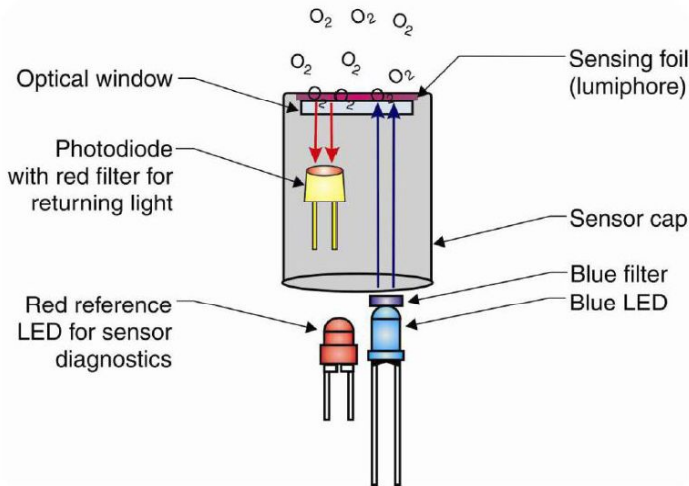


OxySense Titan

- Titanium construction
- Flow cell mountable
- T₉₀ <45 sec

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 DO Meter 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 on the In Situ 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!



DO sensor fitted with an autoclean end cap

Specifications

RDO® PRO-X Probe Dissolved Oxygen Sensor	
Type	Lumiphore Optical Dissolved Oxygen
Measurand	Dissolved Oxygen
Range	0-50 mg/l or 0-200% saturation
Resolution	0.01mg/l
Accuracy and Precision	+/- 0.1mg/l from 0-8mg/l (1.25%) and +/- 0.2mg/l from 8-20mg/l
Stability	Better than 1% per month (without calibration)
Temperature Range	>32° F up to 122° F
pH Range	pH2 up to pH10
Salinity Range	0-42 ppt
Temp Compensation	Automatically by an integrated thermistor
Permissible Overpressure	145 psi
Typical Response Limited	> 25 mg/l
Response Time	T ₉₀ < 45 sec, T ₉₅ < 60 sec at 77° F
Zero-point Adjustment	Not Necessary
Calibration	Manual using water saturated air
Response Check	Automatic with optional autoclean
Materials of Construction	PVC, silicone, polycarbonate, stainless steel
Dimensions	Diameter approximately 1 3/4 in. OD, Length 8 in
Maintenance Intervals	Manual calibration 3-36 months, lumiphore change 24-48 months
Warranty	The shorter of 24 months from the date of manufacture or 12 months from date of first use
Interferences	High levels of sodium hypochlorite

RDO® PRO-X Probe is a registered trademark fo In Situ Inc.