

# LUMINESCENT/OPTICAL DISSOLVED OXYGEN ANALYZER

*"We changed the way the world measures oxygen"*

**EPA RECOMMENDED METHOD**

## **-PATENTED**

- NO MEMBRANES
- NO ELECTROLYTE
- NO SENSOR CAP REPLACEMENT
- NO CONSTANT CALIBRATION
- NO FLOW NECESSARY
- SENSOR NOT DAMAGED BY DIRECT OR INDIRECT SUNLIGHT
- FAST, DEPENDABLE READINGS

**WE INTRODUCED OUR FIRST COMMERCIAL OPTICAL D.O. SENSOR/ANALYZER IN 1997**



**FIVE YEAR SENSOR WARRANTY  
"ASTM APPROVED METHOD"**

***DESIGNED FOR USE  
IN HARSH  
ENVIRONMENTS,  
INCLUDING  
MUNICIPAL/  
INDUSTRIAL  
WASTEWATER AND  
AQUACULTURE***



Model FL-3 Microprocessor



**Maintenance and installation  
are the easiest in the market**

**[www.thefluoroprobe.com](http://www.thefluoroprobe.com)**

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*Unlike what some of our competitors would have you believe, the patented **FLUOROPROBE®** was the first luminescent/fluorescent/optical dissolved oxygen sensor/analyzer to be introduced commercially. Our first unit was placed into service in 1997 and is still operating today with the same sensor. We have many satisfied clients worldwide who have purchased additional units for their use!*

***FLUOROPROBE®** technology is covered by five international patents from countries throughout the world.*

#### What is Fluorescence?

The ability to absorb light at one wavelength (blue) and then to emit it at another (red)

#### How could oxygen be measured by this?

Our patented sensor, which is made of silicone rubber, has an added property which in the presence of oxygen affects the amount of light which is emitted in the red region

#### Why would another oxygen measurement method be needed in the market place?

Existing oxygen methods are the Clark Probe or Galvanic type. Probes based on these methods require constant attention due to the fact that an electrochemical reaction is taking place under water behind a Teflon membrane. This allows not only oxygen but all other gases and some ions to be involved in the electrochemical reaction. Replaceable membranes and electrolyte are needed to maintain their operation.

#### What are the advantages of Fluorescence over older technology?

Measurement is optical with silicon rubber only in contact water

Clark and Galvanic require flow, the Fluoroprobe® does not

Clark and Galvanic probes consume oxygen and any water borne organisms that also consume oxygen. This coats the membrane and causes rapid O<sub>2</sub> depletion behind the membrane. The Fluoroprobe®, when coated with Bio-Mass can simply be wiped off and immediately returned to service with no need of re-calibration

## Model FL-3 Specifications

- Application Temperature range:

Instrument: -30° C to +50° C

Sensor: -30° C to +204° C

- Operation Range: 0 ppm to Supersaturation

- Automatic temperature compensation

- Measurement Accuracy: (aqueous solutions 0-10 ppm) +/- 1%

- Measurement stability: .05 ppm

- Response time:

Aqueous solutions: 95% of measured value in 30 seconds

Gas Phase: 95% of measured value in 7 seconds

NOTE: Response time will decrease with increased flow, however, FLOW IS NOT REQUIRED FOR A STABLE MEASUREMENT

- Sensor: .005-.007" thick silicon

Sensor Cable: polyurethane

Sensor type: luminescent/fluorescent

- Excitation wavelength: 470 nm

Emission wavelength: 610 nm

- Input power: 110-240 VAC 50/60 HZ, 24VDC

- Outputs: three control relays, 4/20 ma (maximum resistance of 600 ohms) D.O. & temperature

- Calibration: Automatic, single button after altitude is set

- Enclosure: NEMA 4X UL listed

- Display: Harsh Environment 4-line 20 character backlit LCD

- Probe Body: 9"L x 1.25" diameter PVC (no seals)

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