

# ***MODEL 1000***

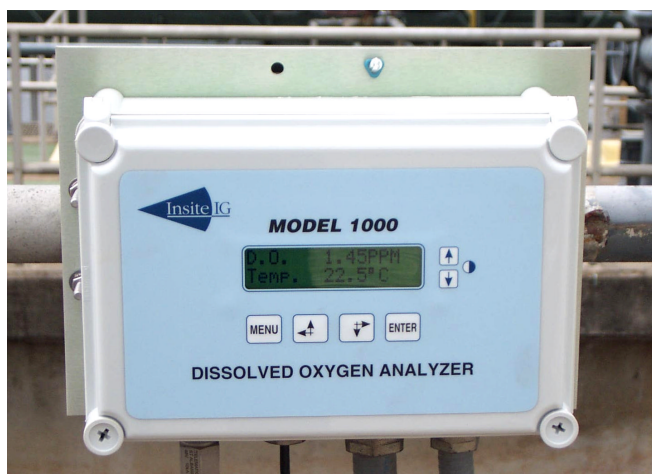
## ***DATA SHEET***

### **DISSOLVED OXYGEN ANALYZER**

**No Membranes—No Fill Solution—No Routine Calibration—No Routine Maintenance**

***NOT DAMAGED BY DIRECT OR INDIRECT EXPOSURE TO SUNLIGHT***

The Insite Instrumentation Group Model 1000 dissolved oxygen analyzer is a unique system that combines advanced electronics with a solid-state, optical sensor. No other dissolved oxygen system can compare with the features and benefits of this revolutionary design. The sensor utilizes an optical technique that does not consume oxygen like all standard membrane sensors.



**MODEL 1000 DO ANALYZER**

#### **FEATURE**

Optical sensor technology

#### **BENEFITS**

- Eliminates membranes and fill solutions
- No requirement for weekly or monthly calibrations
- No weekly or monthly sensor cleaning
- Works in low flow / no flow applications
- Extremely accurate in anoxic zones

#### **FEATURE**

Advanced microprocessor design

#### **BENEFITS**

- Automatic error detection
- Analyzer self test
- Simple user interface
- Simple start-up

### ***FLUORESCENCE DISSOLVED OXYGEN —THEORY OF OPERATION***

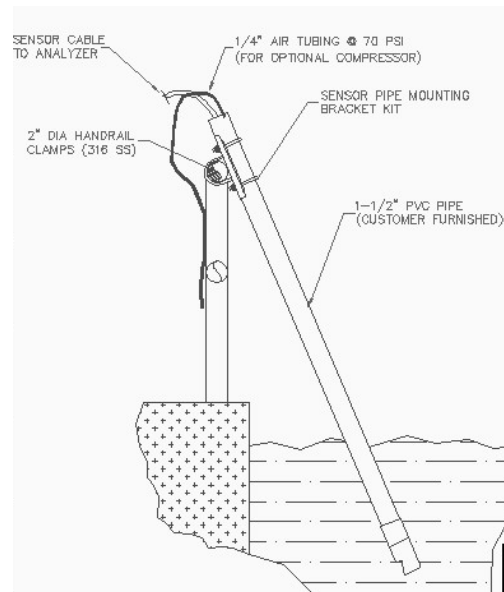
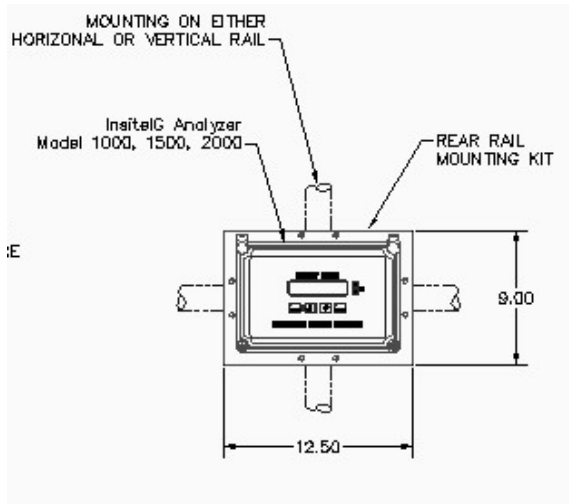
A very specific energy wavelength is transmitted to a ruthenium compound immobilized in a sol-gel matrix. The ruthenium will absorb this energy, changing the outer electron's energy level. The electron will then collapse back to its original energy state, emitting the energy as a photon with a different specific wavelength. This is called fluorescing. If the intensity of the transmitted wavelength is tightly controlled, the amount of fluorescing is both predictable and repeatable. If oxygen molecules are present the amount of fluorescing is reduced, referred to as fluorescence quenching. By measuring the amount of quenching it is possible to determine the amount of oxygen present.

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# MODEL 1000 SPECIFICATIONS

<b>Measuring Range</b>	0 to 25 ppm
<b>Accuracy</b>	1% of reading or .02 ppm, whichever is greater
<b>Sensitivity / Resolution</b>	.01 ppm below 4.00, .1 ppm above 4.0
<b>Stability</b>	.01 ppm
<b>Repeatability</b>	.01 ppm
<b>Sensor Drift</b>	Less than 1% per year
<b>Temperature Range</b>	0 to 60 degrees C
<b>Response Time</b>	95% in less than 60 seconds
<b>Sensor Check</b>	Automatic self diagnostics
<b>Outputs</b>	Optically isolated 4-20 milliamp for DO Optically isolated 4-20 milliamp for Temperature Optically isolated RS-485 Modbus RS-232 serial 4 dry contact 10 amp relays
<b>Memory Backup</b>	Yes
<b>Display</b>	Backlit LCD display with UV protection Contrast adjustment via keypad Continuously displays both DO and Temperature
<b>Sensor Cable Length</b>	25 feet standard (optional lengths up to 2000 ft)
<b>Ambient Temperature</b>	minus 20 degrees C to 70 degrees C
<b>Ambient Humidity</b>	0 to 100 percent
<b>Enclosure Rating</b>	NEMA 4X
<b>Wetted Materials</b>	Epoxy, polyurethane, and PVC
<b>Maximum Pressure</b>	100 psi



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