DISSOLVED OXYGEN MONITOR
HydroACT 300

BENEFITS

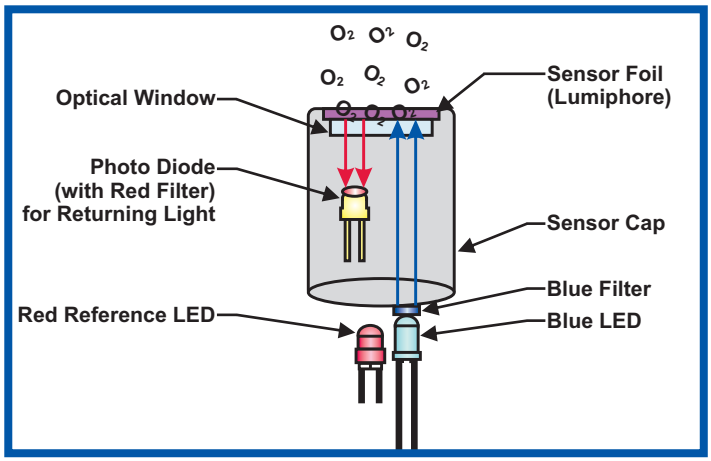
- No reagents or moving parts
- Low purchase and ownership cost
- Up to 3 sensors
- No maintenance or calibration for up to 12 months

OPTIONS

- Automatic cleaning
- Automatic in-situ verification
- PID control

PRINCIPAL 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 HydroACT 300 with DO Probe is far superior to that of its competitors.



In addition to the state of the art optical sensor the HydroACT 300 offers Modbus communications (TCP/IP, RS485), Relays and 4-20mA outputs. Despite all of the additional functionality that this unit has to offer, the purchase costs are less than or comparable to, its competitors. Added to the cost savings of a truly automatic sensor verification system, some will achieve a replacement payback of only a few months. Also available are Dual and Triple Validation options, and various PID control functions.

AUTOMATIC SENSOR VERIFICATION

The Chemtrac DO Probe is the first of its kind in the world to offer automatic in-situ sensor verification as an option. The HydroACT 300 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 a full year.

Dissolved Oxygen

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GENERAL SPECIFICATIONS

Analyzer

Power Options:	100-240 VAC, or 12 VDC
Display:	LCD Backlit 128x64 graphical
Sensor Options:	DO, Free Cl, “Zero” Free Cl, Total Cl, Cl Dioxide, Ozone, pH with Temperature, ORP, Conductivity, Chlorite, Biofilm
Sensor Inputs:	Up to 3 (pH w/Temp probe requires 2 inputs)
Digital Inputs:	Up to 2 (e.g. low flow switch)
4-20mA Outputs:	Up to 3 (750 ohm load), PID option will utilize 1 output
Relays:	Up to 4 (250 VAC, 8A / 30 VDC, 8A)
Comms Options:	Modbus (RTU, TCP), Profibus, or HART
System Eventlogging:	20 events
Enclosure:	Nema 4X / IP65
Dimensions:	7.6” W x 6.3” H x 4.1” D (193 mm W x 161 mm H x 103 mm D)
Weight:	2.2 lbs (1 kg)
AutoClean (optional)	Requires instrument air at 43.51 psi (3 bar) and 60 l/min

Automatic Sensor Verification (optional)

RDO® Rugged Dissolved Oxygen Sensor

Type:	Lumiphore optical dissolved oxygen
Measured:	Dissolved Oxygen
Range:	0-20 mg/l or 0 - 450% Saturation
Resolution:	0.01 mg/l
Accuracy and Precision:	±0.1% mg/l from 0 - 8 mg/l and ±0.2% mg/l from 8 - 20 mg/l
Stability:	Better than 1% per month (without calibration)
Salinity Range:	0 - 42 PSU (As reference: Seawater is typically 33-37 PSU)
Temperature Range:	> 0 up to 50° C
Temperature Compensation:	Automatically by integrated thermistor (ATC)
pH Range:	pH 2 up to pH 10
Permissible Over-Pressure:	7.25 psi (0.5 bar)
Typical Response Limit:	>25 mg/l
Response Time:	T90 = 30s T95 = 37s
Zero-Point Adjustment:	Not necessary
Calibration:	Manual using water saturated air or automatic
Housing Material:	PVC, silicone, polycarbonate, stainless steel
Dimensions:	Diameter approx. 1.72 in. OD, length 7.99 in.
Maintenance Intervals:	Manual calibration 3 - 12 months Lumiphore change 12 months
Interferences:	High levels of Hypochlorite

RDO® **Rugged** Dissolved Oxygen Sensor