The OxyGuard Oxygen Probe

Probe for High and Low Levels of both Dissolved and Gaseous Oxygen

The OxyGuard Probe is a membrane covered galvanic cell that generates an electrical signal proportional to the oxygen pressure it senses, no matter whether it is in water, air, gas, wine, oil or something else. The probe can be used to measure dissolved oxygen in aquaculture, the environment, in clean water, waste water and in oil or other fluid. It can measure very small oxygen concentrations in inert or explosive gases as well as the oxygen content of ambient air and the purity of oxygen gas.

The chemistry and construction of the OxyGuard Probe of today represents a third-generation development of the OxyGuard probe. It incorporates significant improvements over the original OxyGuard probe that revolutionized dissolved oxygen measurement. Not only does the OxyGuard probe use a better chemistry than traditional membrane-covered oxygen probes, but the chemistry has now been refined. This, together with an improved mechanical design, give an even better accuracy and long-term stability.

The OxyGuard probe acts as a battery that gives a direct measurement of the oxygen consentration it is subjected to. The more oxygen there is outside the probe, the more oxygen can diffuse through the membrane to carry electrons between the anode and cathode to make the output signal. An OxyGuard probe needs neither an applied voltage nor microprocessor controlled electronics in order to work. It measures oxygen all the time, and continues to do so until all the anode metal has been converted to metal oxide, which takes about 30 years. In practical use in Aquaculture the OxyGuard probe can keep calibration for about 1 year, and operate for 3 to 5 years before membrane replacement is needed. The latter procedure is easy and costs very little.

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TECHNICAL INFORMATION

Specifications

Dimensions: Diameter = 58 mm, length = 59 mm. Cable length = 7 m (standard).
Weight: 0.2 kg without cable, 0,5 kg with 7m cable.
Priciple: Galvanic cell, self polarizing, self temperature-compensating.
Range and Output: 2.5 to 5 millivolts per ppm (mg/l). Output impedance approx. 1 kiloohm.
Flow Requirements, water: Minimum flow dependent on DO and temperature, typically 1 cm/sec.
Operating Conditions: 0 to 40°C. Submersible to 50 metres.
Standard Accessories: As standard 10 spare membranes with O-rings, 50 ml electrolyte and a cathode cleaning pad are shipped with each probe.
Response time: 90% of end value within 1 minute.

Ordering Information

Commander probes, 4 wire cable, for Commander, Pacific and Atlantic:

D0243C: For mg/l and % saturation measurements. Also measures temperature.

Probes with built-in precision NTC temperature sensor (also 4 wire cable):

D0243M: For mg/l (ppm) measurements.
D0243SV: For % saturation and % volume measurements except pure oxygen.
D0243SVH: For 0-100% oxygen gas by volume.

Probe for the Model 840 and 810 (3 wire cable):

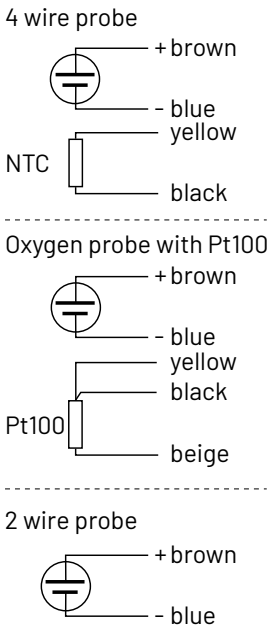
D0233SV: For mg/l and % saturation measurements.

Probes with built-in Pt 100 temperature sensor (5 wire cable):

D0253M: For mg/l (ppm) measurements.
D0253SV: For % saturation and % volume measurements except pure oxygen.
D0253V: For 0-100% oxygen gas by volume.

Standard Probes (2 wire cable), for older Multichannel systems:

D0223M: For mg/l (ppm) measurements.
D0223SV: For % saturation and % volume measurements except pure oxygen.
D0223V: For 0-100% oxygen gas by volume.



All of the above can be ordered with an M18 threaded part at the top for screwing into a flange: add the suffix **M18** for this option.

Spares

D10E31L: 1 litre type 3 electrolyte.
D10MPC: Membrane set for Pacific DO and Commander Probe (10 membranes and O rings).
D10M840: Set of Model 840 probe membranes with small O-rings.
D10MM: Set of membranes with small O-rings for mg/l (ppm) ("M" probes)..
D10MSV: Set of membranes with small O-rings for % sat and volume ("SV" and "V" probes).
D10JBX1: Waterproof junction box for use when extending cable.

Data subject to change without notice; D02 Standard Probe brochure GB 2023 08

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