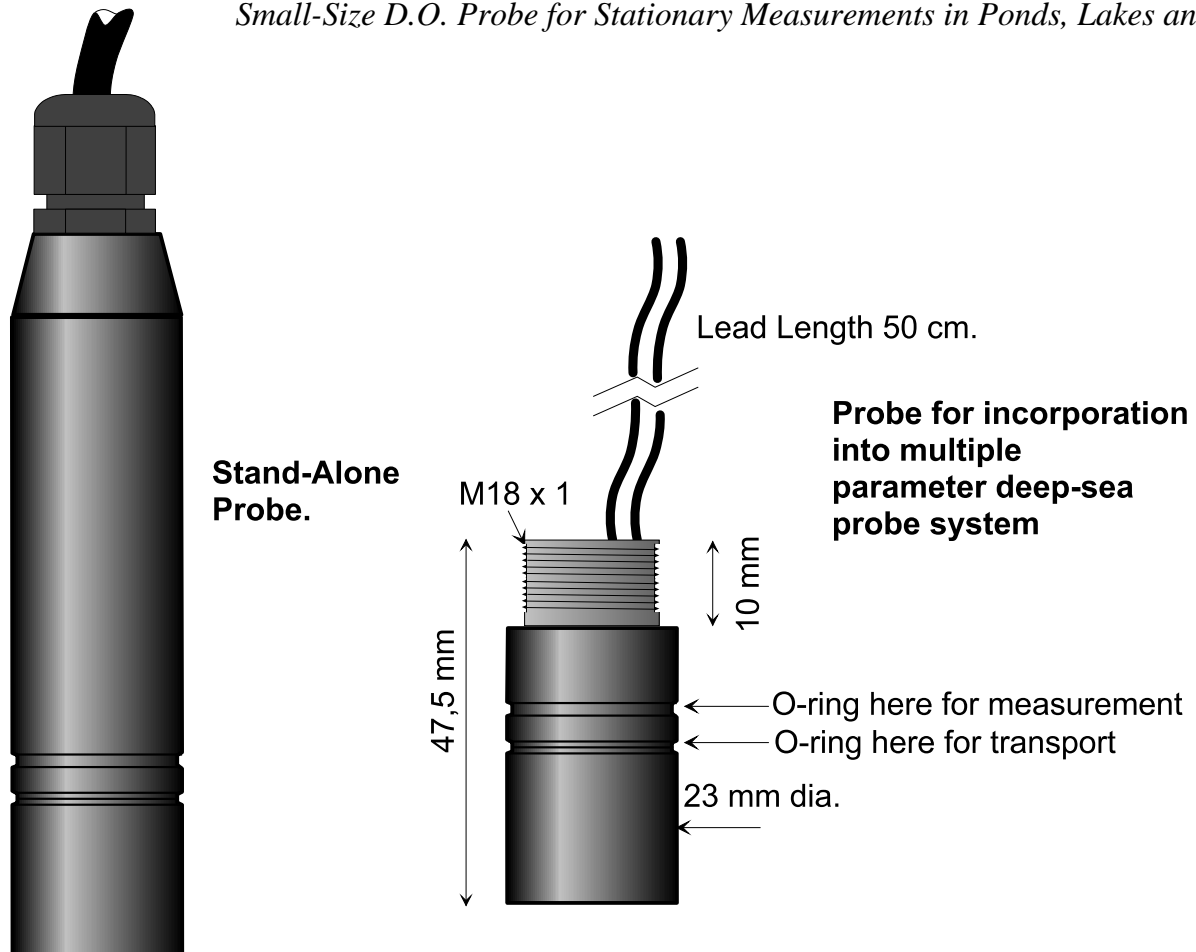


# OxyGuard Ocean D.O. Probe

*Small-Size D.O. Probe for Stationary Measurements in Ponds, Lakes and Oceans*



## General Information

This small-size version of the standard OxyGuard dissolved oxygen probe is a membrane-covered galvanic cell that generates its own voltage. The Ocean D.O. Probe is designed for long-term measurements in ponds, lakes and oceans at depths up to 2000 m. A special version for depths up to 7000 m is available on request.

Due to an ingenious pressure compensation system the probe is insensitive to pressure changes, and, as with all OxyGuard dissolved oxygen probes, it has built-in temperature compensation. It is, unlike some other types of dissolved oxygen probe, NOT sensitive to hydrogen sulphide.

The Ocean D.O. Probe delivers a millivolt output directly proportional to the oxygen pressure that it senses. The connected electronics can therefore be quite straightforward.

The Ocean can be delivered in a mounting configuration to suit the user. The standard version has an M18 x 1 mm thread mount and 50 cm leads for moulding into a multi-parameter sonde as an OEM device. The stand-alone version is also available, this has 3m cable unless otherwise ordered.

Please note that for profiling measurements and measurements using moving probes the DO Profile probe should be used.

# Technical Information

## Technical Advantages

- \* **Extremely high stability.**
- \* **No regular maintenance needs - just wipe the membrane from time to time.**
- \* **Unlimited theoretical lifetime - in practical use the membrane will, however, need replacing occasionally due to deposits or mechanical damage.**
- \* **Robust membrane can, if needed, be replaced by anyone - at negligible cost.**
- \* **Correct measurements with low water movement.**
- \* **Galvanic type - True zero.**
- \* **Built-in temperature compensation.**
- \* **No practical limit to cable length.**
- \* **NOT sensitive to hydrogen sulphide.**
- \* **Can be delivered as stand-alone probe or made specially to fit into your exploratory device.**
- \* **Anti-fouling probe protector available.**

## Using the Ocean

**Mechanical considerations:** At shallow depths the stand-alone version can be hung in the cable. The probe should be fitted so that it is not likely to suffer mechanical shock or damage, and where there is movement in the water. There should be easy access to the probe so that deposits can be wiped from the membrane as necessary. The probe is designed to be accurate at temperatures between 0 and 40°C, but can withstand temperatures up to 60°C.

**Electrical considerations.** The Ocean should be connected to an amplifier with at least 2 megohm input impedance and galvanic isolation. The system must be calibrated; since the probe is linear and has a true zero this can be performed as a single adjustment ("span") in air.

## Specifications

Output Signal:	20 to 40 mV in air, corresponding to 100% saturation.
Useful range and resolution:	All naturally occurring DO levels including super-saturated water, i.e. 0-400% sat. Resolution corresponds to 1% saturation.
Response time:	With fast response membrane 90% of step change within 10 seconds at 20°C. Response time is temperature dependant.
Temperature Compensation:	Built into probe.
Temperature range:	Recommended 0-40°C. Can be used up to 60°C.
Pressure range:	0-200 bar. Version for depths up to 7000 m on request.
Connections:	The probe is designed for fitting to deep-sea exploratory devices and can be made with a fitting to customer specification. If not otherwise specified it will be delivered with 2 x 0.25 mm <sup>2</sup> x 50 cm wires and M18 x 1 thread. The Stand Alone version is, as standard, delivered with 3m cable.

## Ordering Information

The Ocean Probe is delivered complete with spare membranes, o-rings and electrolyte.

D0521M18: Ocean Probe, to 2000 m, high stability membrane, M18 mount.

D0522M18: Ocean Probe, to 2000 m, fast response membrane, M18 mount.

D0523SA: Ocean Probe, PPM membrane, Stand Alone version.

Please contact OxyGuard for other versions.

Spares:

D05XE250: 250 ml electrolyte

D05XMS: Set of high stability membranes with O-rings.

D05XMF: Set of fast response membranes with O-rings.

D05XPP: Membrane protector for Ocean probe (for mechanical protection).

D05X AFC: Anti-Fouling Cap that protects mechanically and hinders barnacle and algae growth on the membrane.