Dissolved Oxygen Probe V 2.2

Remove protective cap before using probe

Typical Applications

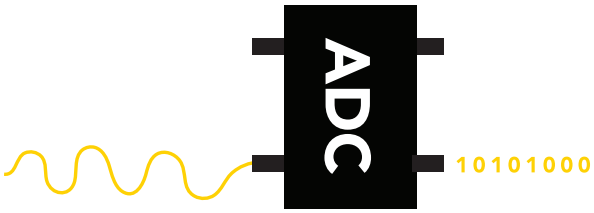
- Standard Lab use
- Field use
- Hydroponics
- Fish keeping
- Wine making
- Food Safe
- Mixed aqueous/organic
- Samples containing Heavy metals
- Environmental monitoring

Specifications

- Range: 0-35 mg/L
- Body Material: Epoxy and Noryl (highly resistant to corrosion)
- Max Temperature: 50°C
- Max Pressure: 690 kPa (100PSI)
- Max Depth 60 M (197 ft)
- Calibration Single point in air
- Cable length: 1 Meter
- Weight: 52 grams
- Dimensions: 16.5mm X 116mm (0.65" X 4.57")
- BNC connector
- Response time ≅ 0.06 mg/L per second
- Sterilization
  - Chemical ✓
  - Autoclave X

Dissolved Oxygen Probe

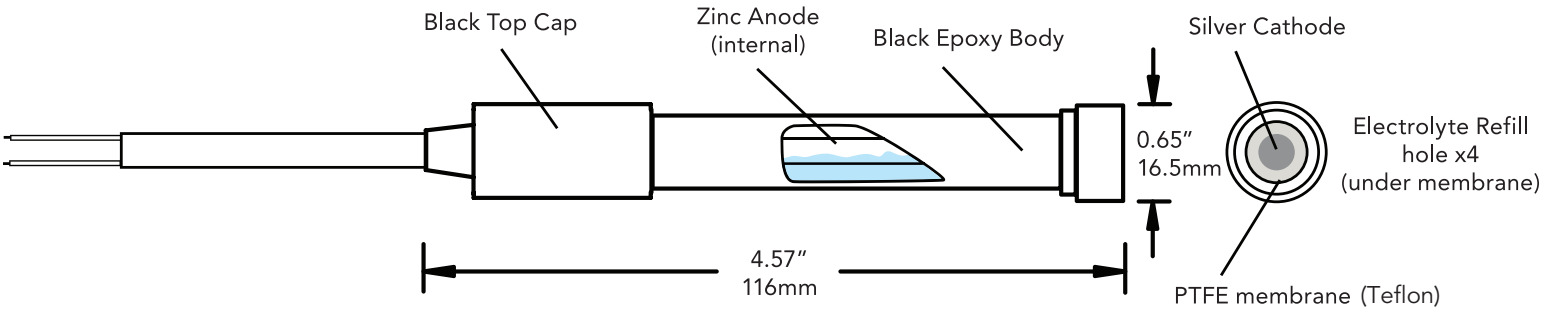
This galvanic dissolved oxygen probe is a passive device that generates a small voltage from 0mv to 47mv depending on the oxygen saturation of the HDPE sensing membrane. This voltage can easily be read by a multimeter or an analog to digital converter.



Can be read with Multimeter

Can be read with ADC

The probe is a tube with a zinc rod (anode) submerged in an electrolyte. The sensing element is the HDPE sensing membrane compressed against a silver disk (cathode).



Dissolved oxygen is expressed in mg/L. There are many factors that must be taken into account when reading dissolved oxygen, such as salinity and temperature.

Therefore, there is no simple linear equation that will derive the dissolved oxygen from the probes output voltage.

Atlas Scientific™
Environmental Robotics

Dissolved Oxygen Probe

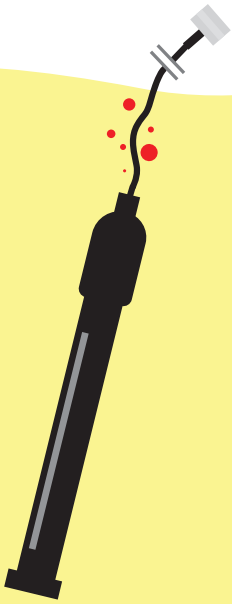
Determining the dissolved oxygen percentage as compaired to atmospheric oxygen. (non scientific measurement)

% saturation= (mv in water / mv in air) X 100

Determining the dissolved oxygen in mg/L from the probes output voltage is very complex, and the responsibility of the embedded systems engineer.

The Atlas Scientific Dissolved Oxygen Circuit will perform the calculations for you, to derive oxygen saturation in mg/L.

This Dissolved Oxygen Probe can be *fully submerged* in fresh water or salt water, up to the BNC connector indefinitely.



How often do you need to recalibrate a Dissolved Oxygen probe?

Because every use case is different, there is no set schedule for recalibration.

The Dissolved Oxygen probe reacts with oxygen in the water, the more oxygen it reacts with the more the probe is depleted of its electrolyte solution. Typically a Dissolved Oxygen probe will last ~2 years before the electrolyte is depleted *(results will vary)*. When the electrolyte is depleted, the probe will read very low numbers. Best practice is to replace the Electrolyte Solution and Teflon Membrane every 2 years; both are included in our **Dissolved Oxygen Maintenance Kit**.

Extending the length of the probe cable

You can extend the cable to 100 meters with no loss of signal, however you run the risk of turning your pH probe into an antennae, picking up noise along the length of your cable. If you want to extend your cable, we recommend that you use proper isolation, such as the **PWR-ISO**, or **Tentacle Shield**. Be sure to calibrate your probe with the extended cable.

Extending a probe cable can be easily done with our **BNC Extension Cable**. Simply connect the BNC end of the probe to the Extension cable, and you are all set. If you need to water proof a BNC connection, we highly recommend using a product like **Coax-Seal** to safely cover and prevent any water damage that may occur.

COAX-SEAL®
"The Original Connector Sealant!"