

# aquaMeasure Sensors

When it comes to environmental monitoring in real-time, we've got you covered with our revolutionary, cable-free environmental sensors

aquaMeasures are compact, wireless sensors that monitor underwater environmental conditions to understand the effects that changes in ecosystems can have on the behavior and mortality of aquatic animals.

When used in conjunction with fish tracking studies where you learn where your animals go, aquaMeasure sensors can offer valuable insights into why your animals behave the way they do.

The aquaMeasure DO measures **dissolved oxygen** and the aquaMeasure SAL measures **salinity**. The aquaMeasure BASE houses and integrates third party sensors that measure **blue-green algae (BGA)** in fresh and salt water, **turbidity, chlorophyll** and **CDOM/FDOM**.

All aquaMeasure sensors measure temperature and tilt and operate in real-time. The aquaMeasure DO also comes with an optional depth sensor.



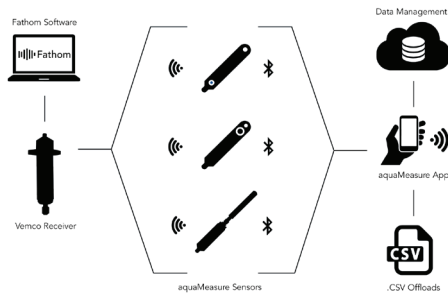
## Why Measure?

- » **Dissolved Oxygen** - low levels significantly affect behavior and can lead to mortality
- » **Salinity** - abrupt changes can cause high stress levels and lead to mortality
- » **Blue-Green Algae** - causes low DO and the production of toxins, which can lead to high levels of mortality
- » **Turbidity** - increased levels raises water temperature which can be harmful to biomass and affect fish feeding behavior
- » **Chlorophyll** - high levels indicates high levels of phytoplankton and possible pollutants that can impact macronutrients and biomass levels
- » **CDOM/FDOM** - human influences such as logging, effluent discharge, agriculture, and wetland drainage can increase levels of CDOM/FDOM

## Benefits

- » Transmits data to Fathom Live system for real-time access or to nearby deployed Vemco receivers
- » Logging capabilities for passive monitoring
- » In air wireless communications for offload to a mobile device or PC
- » Instant visualization of data with aquaMeasure app and Fathom Live dashboard
- » Cloud-based data storage

## How It Works



## Pair With

aquaMeasure sensors are use as a system with:

- » aquaHub and Receiver
- » Vemco 69 kHz Receivers
- » Fathom Live Software



## PRODUCT SPECIFICATIONS

### Dissolved Oxygen

Optical Based Measurement  
(0-140% Saturation ( $\pm 2\%$ ))

### Salinity

Conductivity Based Measurement  
(0-40 PSU ( $\pm 0.5$  PSU))

### BGA Freshwater (Phycocyanin)

Conductivity Based Measurement  
(0-40 PSU ( $\pm 0.5$  PSU))

### BGA Marine (Phycocerythrin)

Optical Back-Scatter Based  
Measurement (0-750 ppb)

### Turbidity (TURB)

Optical Back-Scatter Based  
Measurement (0-1500 NTU)

### Chlorophyll (CHL)

Optical Back-Scatter Based  
Measurement (0-500  $\mu\text{g/L}$ )

### CDOM / FDOM

Optical Back-Scatter Based  
Measurement (0-1500 ppb)

### Temperature

$-5^{\circ}\text{C} - 35^{\circ}\text{C}$  ( $\pm 0.1^{\circ}\text{C}$ )  
Resolution (logged data):  $0.01^{\circ}\text{C}$   
Resolution (transmitted data):  $0.1^{\circ}\text{C}$

### Tilt

3D Accelerometer ( $0^{\circ}$  to  $180^{\circ}$ )  
Resolution (logged data):  $0.1^{\circ}$   
Resolution (transmitted data):  $1^{\circ}$

### Battery Life

6-12 months

### Configuration/Offload

Via aquaMeasure App (iOS/Android)

### Real-time Mode

Yes (Underwater Communications)

### Logger Mode

Yes (Internal Memory)

### Memory

64 Mb Flash (1,000,000+ records)

### Operating Temperature Range

$-5^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$  (water must not freeze)

### Operating Depth Range

Up to 500 m

### DO Weight (Air/Water)

526 g / 154 g  
907 g / 816 g (with Weight Collar)

### DO Sensor Dimensions

50 mm x 274 mm  
Weight Collar 70 mm x 80 mm

### Depth (optional sensor DO only)

0 - 100 m ( $\pm 1.5\text{m}$ )  
Resolution (logged data): 0.1 m  
Resolution (transmitted data): 0.5 m

### SAL Weight (Air/Water)

820 g / 300 g  
2360 g / 2170 g (with Weight Collar)

### SAL Sensor Dimensions

64 mm x 386 mm  
Weight Collar 99 mm x 106 mm

### BASE Weight (Air/Water)

1015 g / 600 g  
2370 g / 2170 g (with Weight Collar)

### BASE Sensor Dimensions

64 mm x 574 mm  
Weight Collar 99 mm x 106 mm

Ready to Get Started? [Contact us](#) today.

### About Innovasea

Innovasea designs the world's most technologically advanced aquatic solutions for fish tracking and builds them to withstand the toughest conditions. It's all driven by a commitment to make our ocean and freshwater ecosystems sustainable for future generations. Today. Tomorrow. For life.



[www.innovasea.com/fish-tracking](http://www.innovasea.com/fish-tracking)

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