

SeapHOx™

Ocean CT(D)-pH-DO Sensor

The Sea-Bird Scientific SeapHOx combines the Satlantic SeaFET pH sensor with the Sea-Bird Electronics SBE 37-SMP-ODO MicroCAT CTD+DO sensor. The SeapHOx allows for the integrated data collection of pH with the critical oceanographic and biological measurement of temperature, salinity, and oxygen. The integrated package also allows the SeaFET to take advantage of the SBE 37's pumped flow path and anti-fouling technology, extending deployment durations in some cases.

Features

- Moored pH, Conductivity, Temperature, Pressure (optional), and Optical Dissolved Oxygen, at user-programmable 5-minute to 24-hour intervals.
- Integral pump.
- RS-232 or USB interface.
- Internal memory and batteries (can be powered externally).*
- Expendable anti-foulant devices, unique flow path, and pumping regimen for bio-fouling protection.
- SeaFETCom® Windows software package (setup, data upload, and data processing).
- Field-proven MicroCAT family, with more than 10,000 instruments deployed.
- Maximum depth 50 m.

* The instrument MUST carry internal batteries; external power may extend the deployment duration depending on the sampling regime.

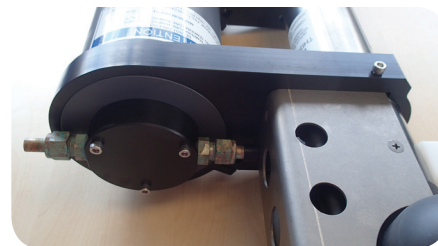
Components

- The pH sensor is Ion selective field effect transistor type.
- Unique internal-field conductivity cell permits use of expendable anti-foulant devices, for long-term bio-fouling protection.
- Aged and pressure-protected thermistor has a long history of exceptional accuracy and stability.
- Optional strain-gauge pressure sensor with temperature compensation is available in two ranges.
- Oxygen sensor is field-proven, individually calibrated SBE 63 Optical Dissolved Oxygen sensor.
- Pump runs for each sample, providing improved pH, conductivity, and oxygen response, bio-fouling protection, and correlation of CTD and oxygen measurements.



Options

- RS-232 or USB interface
- Optional strain-gauge pressure sensor
- Wire mounting clamp and guide or brackets for mounting to a flat surface



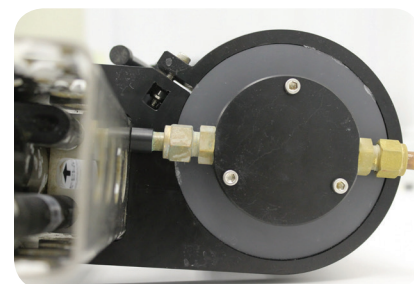
SeaFET connected to MicroCAT pumped flow path exhaust port

Measurement Range

Conductivity	0 to 7 S/m (0 to 70 mS/cm)
Temperature	-5 to 45 °C
Optional Pressure	20m or 100 m measurement range
Dissolved Oxygen	120% of surface saturation in all natural waters (fresh and salt)
pH	6.5 - 9.0 pH

Initial Accuracy

Conductivity	± 0.0003 S/m (0.003 mS/cm)
Temperature	± 0.002 °C (-5 to to 35 °C); ± 0.01 °C (35 °C to 45 °C)
Optional Pressure	± 0.1% of full scale range
Dissolved Oxygen	larger of ± 3 µmol/kg (0.07 mL/L, 0.1 mg/L) or ± 2%
pH	0.02 pH



Typical Stability

Conductivity	0.0003 S/m (0.003 mS/cm) per month
Temperature	0.0002 °C per month
Optional Pressure	0.05% of full scale range per year
Dissolved Oxygen	sample-based drift < 1 µmol/kg/100,000 samples (20 °C)
pH	0.003 pH/month

Resolution

Conductivity	0.00001 S/m (0.0001 mS/cm)
Temperature	0.0001 °C
Optional Pressure	0.002% of full scale range
Dissolved Oxygen	0.2 µmol/kg
pH	0.004 pH

Memory Capacity

4 GB

System Depth Rating

50 m

System Dimensions

74.17 cm x 28.25 cm x 12.90 cm | 29.2" x 11.12" x 5.08"