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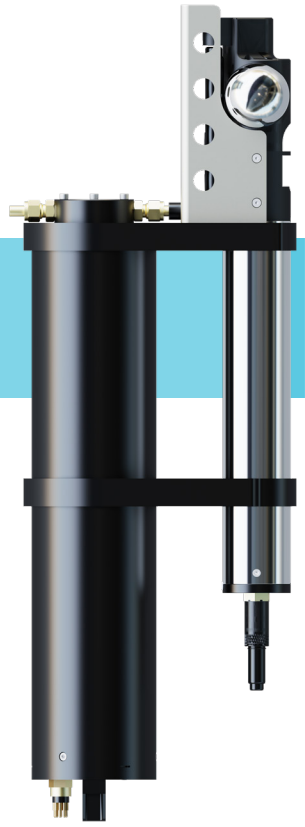
SeapHOx™ V2

OCEAN CT(D)-pH-DO SENSOR



Overview

The Sea-Bird Scientific SeapHOx V2 combines the SeaFET V2 ISFET pH sensor with the SBE 37-SMP-ODO MicroCAT CTD+DO sensor. The SeapHOx V2 allows for the integrated data collection of pH with the critical oceanographic and biological measurements of temperature, salinity, and oxygen. The integrated package also allows the SeaFET V2 to take advantage of the SBE 37's pumped flow path and anti-fouling technology, ensuring long-term stability and extending deployment duration.

Features

Moored pH, Conductivity, Temperature, Pressure (optional), and Optical Dissolved Oxygen, at user-programmable 6-second to 6-hour intervals*

Integrated pump

RS-232 interface

Internal memory and batteries (can be powered externally)**

Expendable anti-foulant devices, unique flow path, and pumping regimen for bio-fouling protection

UCI graphical software package (setup, data upload, and data processing)

Field-proven MicroCAT family, with more than 10,000 instruments deployed

Maximum depth 50 m

*Limited by adaptive pump time for SBE63 / SBE37SMP-ODO which is dependent on temperature and depth. See SBE37SMP-ODO manual for further information.

** The instrument requires internal batteries at all times; external power may extend the deployment duration depending on the sampling regime.

Components

Ion Selective Field Effect Transistor (ISFET) pH sensor

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

Field-proven, individually calibrated SBE 63 Optical Dissolved Oxygen sensor

Integrated 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 Interface

Optional strain-gauge pressure sensor

Wire mounting clamp and guide or brackets for mounting to a flat surface

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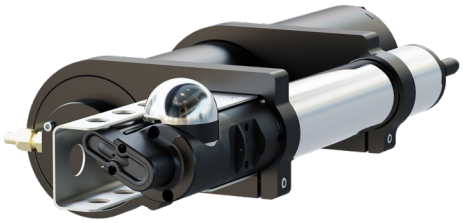
Field Specifications

The specifications below represent the expected performance of the instrument when deployed in the field. Under controlled circumstances in a lab, we would expect the instrument to outperform these specifications.

We have chosen to display field specifications to give our users a true measure of how Sea-Bird Scientific instruments perform in harsh environments and applications. It is critical to keep this in mind when comparing specifications with instruments from other manufacturers.

Measurement Range	
Conductivity	0 to 7 S/m (0 to 70 mS/cm)
Temperature	-5 to 45 °C
Optional Pressure	20 m 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	± 0.05 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	32 MB (Over 1,240,000 samples)
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"
Supply Voltage Range	6 to 18 VDC



SeaFET connected to MicroCAT pumped flow path exhaust port

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