

ECO V2 | Single Channel

DYNAMIC RANGE OPTICAL SENSORS

Overview

Dive into the next generation of optical monitoring with Sea-Bird Scientific's cutting-edge ECO V2 Series. The ECO V2 series offers an impressive dynamic range, seamlessly transitioning from the deep blue ocean to coastal waters, all while delivering 16-bit resolution and enhanced signal-to-noise ratios across up to four channels.

The ECO V2 Series is a game-changer for biological monitoring and dye trace studies. Its robust potted optics block ensures long-term sensor stability, and with the optional anti-biofouling technology, you can achieve truly extended field measurements without compromising accuracy.

The ECO V2 Series offers a multitude of variations and configurations of components to maximize the quality and outcomes of your research. A flexible yet precise sensor package can cover the full range of natural waters, allowing for easier and more reliable research, decision making, and predictions.

The ECO V2 can be deployed independently or can be integrated within other platforms, including glider systems to garner a host of measurement parameters.

Features

- **High Dynamic Range** – One range that covers all natural waters requiring fewer sensors to provide more data.
- **User-Friendly Software** – ECO V2 uses UCI and is compatible for Windows and Mac.
- **Better Data Logging** – With a wider dynamic range, increased resolution and data-handling speeds.
- **Extended Deployments** – Through optional integrated battery packs and active and passive anti-fouling technologies up to 6000 meters.
- **FDOM Sensitivity** – 8x more sensitive FDOM measurement.
- **Consistently Accurate Data** – Through onboard quality assessment and quality control (QA/QC).
- **Extended Battery Life** – Increased battery life and new battery pack option that is interchangeable with the SBE 37 and much easier to replace than the ECO Classic batteries.



Instrument Integrations

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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.

Optical		Electrical	
Scattering	470 to 700 nm	Digital output resolution	16 bit
Resolution (max)	2.3E-06 m-1 sr-1	Input	7-20 VDC
Calibrated Range	0- 0.0074 m-1 sr-1	Analog output signal	0-5V
Measurement Range	0.7 m-1 sr-1	Linearity	99% R ²
Turbidity	700 nm	Data storage	1,048,000 samples
Resolution (max)	4.348E-03 (0-300 NTU) / 1.7313E-03	RS232 Output	19200 baud (default)
Calibrated Range (NTU 700)	(0-1000 NTU)	Sample rate	User-selectable from 0.5 - to 8 Hz
Calibrated Range (NTU 1000)	0-300 NTU	Current, wiper activation	150 mA
Measurement Range	0-1000	Current, typical	17 mA
	0-300 NTU, 0-1000 NTU	Current, sleep	20 uA
Chlorophyll (EX/EM)	470/695 nm	Data validation	Data validation flags provided
Resolution (max)	0.008 µg/L/count	RMS noise	2 counts
Calibrated Range	0-50 µg/L	Instantaneous noise	± 5 counts
Measurement Range	0-400 µg/L	Anti-fouling with Bio-Wiper	Optional
fDOM (EX/EM)	370/460 nm		
Resolution (nominal)	0.03 ppb/count		
Calibrated Range	0-200 ppb		
Measurement Range	0-900ppb		
Mechanical		Environmental	
Diameter	6.3 cm	Temperature Range	0 – 30 °C
Connector	MCBH	Storage Temperature Range	-20 – 50 °C
Length	Standard: 14.3 cm Wiper: 22.1 cm Battery: 30.5 cm	Depth Rating	Std: 600 m 2k: 2000m 6k: 6000m Battery/Wiper: 300m
Weight in air, water	Std: 0.4, 0.02 kg 2K: 0.5, 0.25 kg 6K: 0.6, 0.5 kg Wiper: 1.25, 0.29 kg Battery & 6K: 1.2, 0.7 kg Wiper & Battery: 2.1, 0.43 kg		
Materials	Std: ABS, acetyl, copper 2K: ABS, acetyl, aluminum 6K: ABS, acetyl, titanium Wiper & Battery: ABS, acetyl, copper		