

ECO V2 | Gliders, AUVs, & Integrators

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

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

ECO V2 | Gliders, AUVs, & Integrators

DYNAMIC RANGE OPTICAL SENSORS



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 (700)	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	999% R ²
Turbidity	700 nm	Data storage	
Resolution (max)	4.348E-03 (0-300 NTU) / 1.7313E-03 (0-1000 NTU)	RS232 Output	19200 baud
Calibrated Range (NTU 700)	0-300 NTU	Sample rate	User-selectable from 0.5 - 8 Hz
Calibrated Range (NTU 1000)	0-1000 NTU	Current, typical	60 mA
Measurement Range	0-300 NTU, 0-1000 NTU	Current, sleep	150 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		
fDOM EX/EM	370/460 nm	Environmental	
Resolution (nominal)	0.03 ppb/count	Temperature Range	0 – 50 °C
Calibrated Range	0-200 ppb	Storage Temperature Range	-20 – 50 °C
Measurement Range	0-900 ppb	Depth Rating	1000 m
Mechanical			
Diameter	6.99cm		
Connector	Hirose DF11-6DS		
Length	5.82cm		
Weight in air, water	0.35 kg		
Materials	Aluminum, copper		