

# 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.
- **System in a Sensor** – The 4-measurement sensor option delivers even more versatility and cost savings. It eliminates cables, reduces weight, and provides better, integrated data.
- **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** – 5x 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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Optical	
Scattering (700) Resolution (max) Range	412 to 880 nm 3.60E-06 m-1 sr-1 0.95 m-1 sr-1
Turbidity Resolution (max) Range	700 nm 1.32E-03 NTU/count* 0-350 NTU, 0-1000 NTU
Chlorophyll(EX/EM) Resolution (max) Range	470/695 nm 0.016 µg/L/count 0-400 µg/L
fDOM EX/EM Resolution (max) Range	370/460 nm 0.016 ppb/count 0-900 ppb

\* Applies to range of 0-350 NTU.

Mechanical	
Diameter	6.3 cm
Connector	MCBH
Length	Standard: 14.3 cm Wiper: 22.1 cm Battery: 30.5 cm
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

Electrical	
Digital output resolution	16 bit
Input	7-15 VDC
Analog output signal	0-5V
Linearity	99% R <sup>2</sup>
Data storage	1,048,000 samples
RS232 Output	19200 baud
Sample rate	User-selectable to 8 Hz
Current, wiper activation	150 mA
Current, typical	60 mA
Current, sleep	150 uA
Data validation	Data validation flags provided
RMS noise	2 counts
Instantaneous noise	± 5 counts
Anti-fouling with Bio-Wiper	Optional

Environmental	
Temperature Range	0 – 30 °C
Storage Temperature Range	-20 – 50 °C
Depth Rating	Std: 600 m 2k: 2000m 6k: 6000m Battery/Wiper: 300m