

FL

The *Environmental Characterization Optics (ECO)* series of single channel fluorometers delivers both high resolution and wide ranges across our entire line of parameters using 14 bit digital processing. The *ECO* series excels in biological monitoring and dye trace studies. The potted optics block results in long term stability of the instrument and the optional anti-biofouling technology delivers truly long term field measurements.



- Ships with *ECOVView Host software*
- *Optional integrated Bio-wiper™ and/or copper faceplate for anti-fouling*
- *Optional integrated self-logging; 1 Mb memory*
- *Full ocean depth model available*

Chlorophyll-a

Chlorophyll-a fluorescence is an indicator of active phytoplankton biomass and chlorophyll concentrations. This measurement is used for tracking biological variability and abundance in the water column.

Colored Dissolved Organic Matter

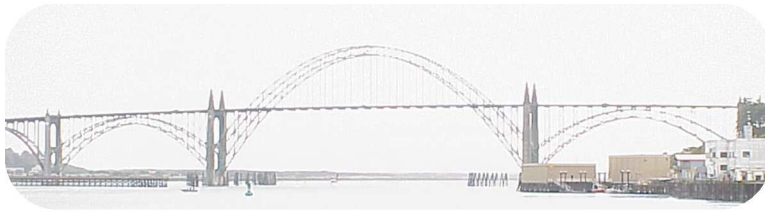
The CDOM ECO allows you to obtain CDOM fluorescence across a wide range of environments, from mangrove swamps to oligotrophic blue water.

Uranine (fluorescein) & Rhodamine

The ideal combination of linearity, sensitivity and range for dye studies. Detection limits in parts per trillion allows for precise patch determination and first arrival timing as well as reducing the necessary initial dye concentration.

Phycoerythrin & Phycocyanin

ECO phycobilin fluorometers have the high resolution necessary for early detection of either blue-green (phycocyanin) or brown (phycoerythrin) algae. These fluorometers are relative measurement instruments and should be calibrated by cell counts for a particular water mass.



ECO FL Specifications

- **FL(RT)**—Provides analog or RS-232 serial output with 16,300-count (approximate) range. This unit provides continuous operation when powered.
- **FL(RT)D**—Provides the capabilities of the FL(RT) with 6,000-meter depth rating.
- **FL**—Provides the capabilities of the FL(RT) with periodic sampling.
- **FLS**—Provides the capabilities of the FL with an integrated anti-fouling *Bio-wiper™*.
- **FLB**—Provides the capabilities of the FL with internal batteries for autonomous operation.
- **FLSB**—Provides the capabilities of the FLS with internal batteries for autonomous operation.

Mechanical

<i>Diameter</i>	6.3 cm
<i>Length</i>	12.7 cm
<i>Weight in air</i>	0.4 kg
<i>Weight in water</i>	0.02 kg
<i>Pressure housing</i>	Acetal copolymer

Optical

Chlorophyll-a	ex/em: 470/695 nm
<i>Sensitivity</i>	0.01 µg/l
<i>Range, typical</i>	0.01 to 125 µg/l
CDOM	ex/em: 370/460 nm
<i>Sensitivity</i>	0.09 ppb
<i>Range, typical</i>	0.09 to 500 ppb
Uranine	ex/em: 470/530 nm
<i>Sensitivity</i>	0.07 ppb
<i>Range, typical</i>	0.12–230 ppb
Rhodamine	ex/em: 540/570 nm
<i>Sensitivity</i>	0.01 ppb
<i>Range, typical</i>	0.01–230 ppb
Phycoerythrin	ex/em: 540/570 nm
<i>Sensitivity</i>	0.01 ppb
<i>Range, typical</i>	0.01–230 ppb
Phycocyanin	ex/em: 630/680
<i>Sensitivity</i>	0.15 ppt
<i>Range, typical</i>	0.15–400 ppt
<i>Linearity (all)</i>	99 % R ²

Electrical

<i>Digital output resolution</i>	14 bit
<i>RS-232 output</i>	19200 baud
<i>Analog output signal</i>	0–5 V
<i>Internal data logging</i>	optional
<i>Internal batteries</i>	optional
<i>Connector</i>	MCBH6M
<i>Bio-wiper™ cycle</i>	140 mA
<i>Input</i>	7–15 VDC
<i>Current, typical</i>	80 mA
<i>Current, sleep</i>	85 µA
<i>Data memory</i>	90,000 samples
<i>Sample rate</i>	to 8 Hz
<i>Anti-fouling bio-wiper™</i>	optional

Environmental

<i>Temperature range</i>	0–30 deg C
<i>Depth rating</i>	600 m (std)
<i>Depth rating</i>	6000 m (deep)
<i>Pressure/temperature sensor</i>	optional

Specifications subject to change without notice.