

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 ECOView Host software***
- ***Analog and Digital Output***
- ***Analog scaling to maximize analog resolution***
- ***Optional integrated Bio-wiper™ and/or copper faceplate for anti-fouling***
- ***Optional internal batteries and memory; over 100,000 samples***
- ***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.

## Specifications

- **FL(RT)**—Provides analog or RS-232 serial output with 16,300-count (approximate) range. “Real Time” instruments provide continuous operation when powered.
- **FL(RT)D**—Provides the capabilities of the FL(RT) with 6,000-meter depth rating.
- **FLS**—Provides the capabilities of the FL with an integrated anti-fouling *Bio-wiper™*.
- **FLB**—Provides the capabilities of the FL with internal memory and batteries for autonomous operation.
- **FLSB**—Provides the capabilities of the FLS with internal memory and batteries for autonomous operation.

### Mechanical

|                         |                  |
|-------------------------|------------------|
| <i>Diameter</i>         | 6.3 cm           |
| <i>Length(std)</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

|                        |                     |
|------------------------|---------------------|
| <b>Chlorophyll-a</b>   | ex/em: 470/695 nm   |
| <i>Sensitivity</i>     | 0.02 µg/l           |
| <i>Range</i>           | 0–125 µg/l          |
| <b>CDOM</b>            | ex/em: 370/460 nm   |
| <i>Sensitivity</i>     | 0.09 ppb            |
| <i>Range</i>           | 0–500 ppb           |
| <b>Uranine</b>         | ex/em: 470/530 nm   |
| <i>Sensitivity</i>     | 0.05 ppb            |
| <i>Range</i>           | 0–400 ppb           |
| <b>Rhodamine</b>       | ex/em: 540/570 nm   |
| <b>Phycoerythrin</b>   | ex/em: 540/570 nm   |
| <b>Phycocyanin</b>     | ex/em: 630/680      |
| <i>Sensitivity</i>     | 0.03 ppb            |
| <i>Range</i>           | 0–230 ppb           |
| <i>Linearity (all)</i> | 99 % R <sup>2</sup> |

### 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>                 | MCBH6MP         |
| <i>Input Voltage</i>             | 7–15 VDC        |
| <i>Current, typical</i>          | 50 mA           |
| <i>Current, sleep</i>            | 140 µA          |
| <i>Current, Bio-wiper™ cycle</i> | 140 mA          |
| <i>Data memory</i>               | 108,000 samples |
| <i>Sample rate</i>               | to 8 Hz         |
| <i>Anti-fouling Bio-wiper™</i>   | optional        |

### Environmental

|                          |               |
|--------------------------|---------------|
| <i>Temperature range</i> | 0 to 30 deg C |
| <i>Depth rating</i>      | 600 m (std)   |
| <i>Depth rating</i>      | 6000 m (deep) |

*Specifications subject to change without notice.*