

ECO Fluorometers

WET Labs offers the *Environmental Characterization Optics (ECO)* series, a modular suite of fluorometers to allow for a wide variety of applications and deployments.

Chlorophyll-a

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

Ex/Em: 470/695 nm

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.

Ex/Em: 370/460 nm

Uranine (fluorescein) & Rhodamine

The qualities of the *ECO* line are now available for flow and dye tracing studies. Specify measurement sensitivity when ordering.

Uranine

Ex/Em: 470/530 nm

Rhodamine

Ex/Em: 540/570 nm



Phycocyanin and Phycoerythrin

Detection of the cyanobacteria fraction of the phytoplankton community is now easier and less expensive with the introduction of two new *ECO* sensors. The phycocyanin meter allows for detection of blue-green cyanobacteria fluorescence; the phycoerythrin meter detects the red.

Phycocyanin

Ex/Em: 630/660 nm

Phycoerythrin

Ex/Em: 540/570 nm



FL sensors can be configured for a variety of capabilities:

- **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.

ECO Combination Fluorometer Specifications

	FL(RT)	FL(RT)D	FL	FLS	FLB	FLSB
Mechanical						
<i>Diameter</i>	2.48 in (6.3 cm)	2.48 in (6.3 cm)	2.48 in (6.3 cm)	2.48 in (6.3 cm)	2.48 in (6.3 cm)	2.48 in (6.3 cm)
<i>Length</i>	5.0 in (12.7 cm)	7 in (17.8 cm)	5.0 in (12.7 cm)	5.25 in (13.3 cm)	10.0 in (25.4 cm)	10.25 in (26.0 cm)
<i>Weight (in air)</i>	0.9 lbs (0.4 kg)	2.86 lbs (1.3 kg)	0.9 lbs (0.4 kg)	1.1 lbs (0.5 kg)	2.1 lbs (0.96 kg)	2.1 lbs (0.96 kg)
<i>Weight (in water)</i>	0.05 lbs (0.02 kg)	1.66 lbs (0.75 kg)	0.05 lbs (0.02 kg)	0.19 lbs (0.08 kg)	0.3 lbs (0.14 kg)	0.3 lbs (0.14 kg)
<i>Pressure housing</i>	Acetron	Titanium	Acetron	Acetron	Acetron	Acetron
Environmental						
<i>Temperature range</i>	0–30 deg C	0–30 deg C	0–30 deg C	0–30 deg C	0–30 deg C	0–30 deg C
<i>Depth rating</i>	600 m	6000 m	600 m	300 m	600 m	300 m
<i>Pressure/temperature sensor (optional)</i>	Y	Y	Y	Y	Y	Y
Electrical						
<i>Digital output resolution</i>	14 bit	14 bit	14 bit	14 bit	14 bit	14 bit
<i>Analog output signal</i>	0–5 V	0–5 V	0–5 V	0–5 V	0–5 V	0–5 V
<i>Internal data logging</i>	N	N	Y	Y	Y	Y
<i>Internal batteries</i>	N	N	N	N	Y	Y
<i>Connector</i>	MCBH6M	MCBH6M	MCBH6M	MCBH6M	MCBH6M	MCBH6M
<i>Input voltage</i>	7–15 VDC	7–15 VDC	7–15 VDC	7–15 VDC	7–15 VDC	7–15 VDC
<i>Current, typical</i>	80 mA	80 mA	80 mA	80 mA	80 mA	80 mA
<i>Current, sleep</i>	--	--	85 µA	85 µA	85 µA	85 µA
<i>Data memory</i>	--	--	1 MB (65,000 samples)	1 MB (65,000 samples)	1 MB (65,000 samples)	1 MB (65,000 samples)
<i>Sample rate</i>	to 8 Hz	to 8 Hz	to 8 Hz	to 8 Hz	to 8 Hz	to 8 Hz
<i>RS-232 output</i>	19200 baud	19200 baud	19200 baud	19200 baud	19200 baud	19200 baud
<i>Anti-fouling bio-wiper[™]</i>	N	N	N	Y	N	Y
<i>Bio-wiper[™] cycle</i>	-	-	-	110 mA	-	110 mA

Specifications subject to change without notice.



ECO-FLxx

Specification Sheet

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Revision History

Revision	Date	Revision Description	Originator
A	3/08/00	Begin revision control	H. Van Zee
B	10/26/00	Correct spec info for DFLB (DCR 69)	H. Van Zee
C	1/16/01	Change AFLT to AFLD (DCR 80)	H. Van Zee
D	5/21/01	Correct input voltage minimum (DCR 109/110)	H. Van Zee
E	1/23/02	Remove "new" reference (DCR 190)	H. Van Zee
F	3/13/02	Correct DFSL/DFLB weights (DCR 201)	H. Van Zee
G	4/16/02	Add max. samples (DCR 215)	D. Whiteman
H	5/1/02	Change reference to AFLx (DCR 218)	H. Van Zee
I	7/8/02	Add battery option to spec table (DCR 228)	H. Van Zee
J	10/15/02	Update specification table (DCR 248)	H. Van Zee
K	11/12/02	Add analog capability (DCR 254)	I. Walsh
L	2/24/03	Replace "shutter" with "bio-wiper™" (DCR 280)	H. Van Zee
M	3/26/03	Correct reference from FLD to FL(RT)D (DCR 287)	A. Derr
N	11/24/03	Add other measurement parameters (DCR 340)	H. Van Zee