



FL

WET Labs offers the *Environmental Characterization Optics (ECO)* series, a modular suite of fluorometers to allow for a wide variety of applications and deployments. Standard ranges are given below, others are available.



- Ships with ECOView Host software
- Optional integrated Bio-wiper™ for anti-fouling
- Optional integrated self-logging; 1 Mb memory
- Full ocean depth model available

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.

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 qualities of the ECO line are now available for flow and dye tracing studies. Specify measurement sensitivity when ordering. Detection ranges from parts per trillion to parts per million.

Phycoerythrin

Detection of the cyanobacteria fraction of the phytoplankton community is now easier and less expensive with the introduction the phycoerythrin meter, which allows for detection of red cyanobacteria fluorescence.



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

Diameter	2.48 in (6.3 cm) (std)
Length	5.0 in (12.7 cm) (std)
Length	10.1 in. (25.6 cm) (deep)
Weight in air	0.9 lbs (0.4 kg) (std)
Weight in air	2.86 lbs (1.3 kg) (deep)
Weight in water	0.05 lbs (0.02 kg) (std)
Weight in water	1.6 lbs. (0.75 kg) (deep)
Pressure housing	Acetal copolymer (std)
Pressure housing	Titanium (deep)

Optical

Chlorophyll-a	ex/em: 470/695 nm
Sensitivity	0.01 µg/l (chl)
Range, typical	0.01 to 125 µg/l (chl)
CDOM	ex/em: 370/460 nm
Sensitivity	0.25 ppb (CDOM)
Range, typical	0.25 to 300 ppb (CDOM)
Phycoerythrin	ex/em: 540/570 nm
Uranine	ex/em: 470/530 nm
Rhodamine	ex/em: 540/570 nm
Linearity (all)	99 % R ²

Electrical

Digital output resolution	14 bit
RS-232 output	19200 baud
Analog output signal	0–5 V
Internal data logging	optional
Internal batteries	optional
Connector	MCBH6M
Bio-wiper™ cycle	110 mA
Input	7–15 VDC
Current, typical	80 mA
Current, sleep	85 µA
Data memory	65,000 samples
Sample rate	to 8 Hz
Anti-fouling bio-wiper™	optional

Environmental

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

Specifications subject to change without notice.



ECO FL

Specification Sheet

WET Labs, Inc.
P.O. Box 518
Philomath, OR 97370
Tel: 541-929-5650
fax: 541-929-5277
www.wetlabs.com

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 DFLS/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
O	5/11/04	Add optical parameters (DCR 390)	I. Walsh
O1	6/16/04	Update specifications	H. Van Zee, I. Walsh
P	6/29/04	Updates approved (DCR 400)	H. Van Zee, I. Walsh
Q	8/26/04	Add deep unit specs (DCR 419)	H. Van Zee
R	9/20/04	Correct CDOM sensitivity value (DCR 427)	I. Walsh
S	2/7/05	Correct phycoerythrin paragraph (DCR 449)	H. Van Zee