



Triplet

The Triplet, one of the popular *Environmental Characterization Optics (ECO)* series tools, is a special-order, three optical-sensor instrument available in a user-defined configuration.

Configuration options:

- Three scattering
- Three fluorescence
- Two scattering, one fluorescence
- One scattering, two fluorescence

Measurement options:

- Blue scattering
- Green scattering
- Red scattering
- Chlorophyll fluorescence
- CDOM fluorescence
- Phycoerythrin fluorescence
- Rhodamine fluorescence
- Uranine (fluorescein) fluorescence

Triplet—

- Addresses the need for multiple simultaneous scattering and fluorescence sensors for autonomous and unattended measurement platforms.
- Performs a free space measurement and requires no pump. It accommodates a variety of deployment options.
- Provides excellent precision, reliability, and overall performance at a fraction of the cost and size of similar instruments.
- Ships with WET Labs' ECOView host software for communication and configuration.
- Provides multiple measurements in a compact design, making the *ECO Triplet* unique among *in-situ* fluorometers.





ECO Triplet Specifications

ECO Triplet—Capable of data logging and periodic sampling.

ECO Triplet B—Provides the capabilities of the Triplet with internal batteries for autonomous operation.

Optical		Mechanical	
Scattering wavelengths	470, 532, 660 nm	Diameter	6.3 cm
<i>Sensitivity, 470 nm</i>	$1.2 \times 10^{-5} \text{ m}^{-1} \text{ sr}^{-1}$	<i>Length</i>	12.7 cm (std)
<i>Sensitivity, 532 nm</i>	$7.7 \times 10^{-6} \text{ m}^{-1} \text{ sr}^{-1}$	<i>Weight in air</i>	0.4 kg (std)
<i>Sensitivity, 660 nm</i>	$3.8 \times 10^{-6} \text{ m}^{-1} \text{ sr}^{-1}$	<i>Weight in water</i>	0.02 kg (std)
<i>Range, typical</i>	$\sim 0.0024\text{--}5 \text{ m}^{-1}$	<i>Pressure housing</i>	Acetal copolymer
Chlorophyll EX/EM	470/695 nm	Electrical	
<i>Sensitivity</i>	0.01 µg/l	<i>Digital output resolution</i>	12 bit
<i>Range, typical</i>	0.01–50 µg/l	<i>RS-232 output</i>	19200 baud
CDOM EX/EM	370/460 nm	<i>Sample rate</i>	To 4 Hz
<i>Sensitivity</i>	0.18 ppb	<i>Internal data logging</i>	Yes
<i>Range, typical</i>	0.18–375 ppb	<i>Internal batteries</i>	Optional
Uranine EX/EM	470/530 nm	<i>Connector</i>	MCBH6M
<i>Sensitivity</i>	0.22 ppb	<i>Input</i>	7–15 VDC
<i>Range, typical</i>	0.22–900 ppb	<i>Current, typical</i>	90 mA
Rhodamine EX/EM	540/570 nm	<i>Current, sleep</i>	85 mA
<i>Sensitivity</i>	0.04 ppb	<i>Data memory</i>	50,000 samples
<i>Range, typical</i>	0.04–175 ppb	Environmental	
Phycoerythrin EX/EM	540/570 nm	<i>Pressure/temperature sensor</i>	Optional
<i>Sensitivity</i>	0.04 ppb	<i>Temperature range</i>	0–30 deg C
<i>Range, typical</i>	0.04–175 ppb	<i>Depth rating</i>	600 m (std)
<i>Linearity</i>	99% R ²		

Specifications subject to change without notice.



ECO Triplet

Specifications Sheet

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Revision History

Revision	Date	Revision Description	Originator
1	7/22	New spec sheet	H. Van Zee
2	9/10/03	Update specs	H. Van Zee
A	11/24/03	Approved spec sheet (DCR 347)	H. Van Zee
A1	6/8/04	Update specifications	I. Walsh
B	6/29/04	Updates approved (DCR 400)	H. Van Zee, I. Walsh
C	9/20/04	Delete analog output (DCR 428)	I. Walsh
C2	2/22/06	Clarify instrument equipment options (DCR 488)	H. Van Zee
D	5/9/06	Update format, finalize C1 (DCR 488)	H. Van Zee
E	9/26/06	Update specifications (DCR 507)	M. Johnson, H. Van Zee