

# Trilogy

## Laboratory Fluorometer



### Trilogy Laboratory Fluorometer

Trilogy is a powerful yet easy to use instrument that offers many benefits for benchtop analysis of samples. Its all solid-state design (no moving parts) utilizes light emitting diodes, sensitive photodiodes, solid glass filters, and electronics to ensure reliable and repeatable readings with no instrument drift. Sensitivity is maximized and pre-set providing a broad measurement range from minimum detection levels to maximum linear concentrations without instrument adjustments. Up to 18 different calibrations can be stored, each calibration performed with up to five concentration standards. Data can be output directly into an Excel spreadsheet during measurements via USB or serial connection.



### Trilogy Features

- Configurable for numerous applications
- Quickly change applications by snapping in a different module
- Store up to 18 user-defined multipoint calibrations
- Measure both raw fluorescence and direct concentration for a sample
- Easily export data to an Excel spreadsheet while measuring samples

Trilogy can be used for fluorescence, absorbance, or turbidity measurements by simply snapping in the appropriate module. Standard modules are pre-configured for select applications; custom modules can be built for user-specific applications. The Trilogy's small, compact design makes it a great addition to any laboratory analyzing fluorescence, absorbance, or turbidity properties of natural water samples.

### Snap-In Application Modules

Snap-in modules are configured with the optical components necessary for the application of choice; changing applications is as easy as snapping in a different module. Select from the available modules below:

#### Available Modules

- Turbidity – meets ISO 7027 requirements
  - Absorbance
    - Phosphate
    - Nitrate
    - Silicate
  - Chlorophyll *a*
    - Acidification (Chlorophyll & Pheophytin *a*)
    - Non-Acidification (Chlorophyll *a* only)
    - *In Vivo*
  - Dye Applications
    - Rhodamine WT
    - Fluorescein
    - PTSA
  - Phycocyanin (blue-green algae, freshwater)
  - Phycoerythrin (blue-green algae, marine)
  - Ammonium
  - CDOM/FDOM
  - Histamine
  - Oil (Refined and Crude)
  - Optical Brighteners for Wastewater Monitoring
- Custom Modules also available*

**Reliable Instruments for an Unreliable World**

### Module Performance

APPLICATION	MINIMUM DETECTION LIMIT	LINEAR RANGE
Ammonium	0.05 µM	0-50 µM
CDOM/FDOM	0.1 ppb*	0-1,000 ppb*
Chlorophyll <i>a</i> Extracted (Acidification)	0.025 µg/L	0-300 µg/L
Chlorophyll <i>a</i> Extracted (Non-Acidification)	0.025 µg/L	0-300 µg/L
Chlorophyll <i>in vivo</i>	0.025 µg/L	0-300 µg/L
Fluorescein Dye Standard Range	0.01 ppb	0-200 ppb
Fluorescein Dye Extended Range	0.75 ppb****	0-8,000 ppb****
Histamine	0.001 ppm	0-100 ppm
	0.5 ppb***	0-2,000 ppb***
Nitrate (Absorbance)	0.04 mg/L	0-14 mg/L
Oil - Crude	0.2 ppb*	0-2,000 ppb*
Oil - Refined	0.25 ppb**	0-6,000 ppb**
Optical Brighteners	1 ppb*	0-10,000 ppb*
Phosphate (Absorbance)	1 µg/L	0-930 µg/L
Phycocyanin (freshwater)	150 cells/ml	0-150,000 cells/ml
Phycoerythrin (marine)	150 cells/ml	0-150,000 cells/ml
PTSA	0.1 ppb***	>10,000 ppb***
Rhodamine WT	0.01 ppb	0-500 ppb
Silicate (Absorbance)	3 µg/L	0-3,000 µg/L
Turbidity	0.05 NTU	0-1,000 NTU

\*Quinine Sulfate

\*\*1,5-Naphthalene Disulfonic Disodium Salt

\*\*\*Pyrene tetra sulfonic acid (PTSA)

\*\*\*\*Minicell Adapter P/N 8000-936 and Minicell P/N 7000-950 required

### Trilogy Physical Specifications

Readout	Direct Concentration (µg/l, ppb, etc.) or Raw Fluorescence (RFU)
Dimensions (D x W x H)	12.92" x 10.44" x 8.42" (32.82 cm x 26.52 cm x 21.39 cm)
Weight	8.1 lbs (3.65 kg)
Operating Temperature	60 - 105° F (15 - 40°C)

### Trilogy Electrical Specifications

Light Source & Detector	Light Emitting Diode and Photodiode
Data Output (S/N: 720XXXXXX)	ASCII format through a 9 pin RS-232 serial cable at 9600 baud
Data Output (S/N: 721XXXXXX)	ASCII format via USB for 64 bit computers ASCII format via RS-232 for 32 bit computers
PC Operating System (optional if connected to PC)	Window 98 or later
Power	100 to 240VAC Universal Power Supply included, Output 12 VDC 0.84A Max

### Ordering Information

#### INSTRUMENT

Trilogy Laboratory Fluorometer

#### FLUORESCENCE MODULES

Chlorophyll *a* Acidification

Chlorophyll *a* Non-Acidification

Chlorophyll *in vivo*

Rhodamine/Phycoerythrin (marine)

Phycocyanin (freshwater)

Fluorescein

CDOM/FDOM

Ammonium

Histamine

PTSA

Refined Fuels

Crude Oil

Optical Brighteners for Wastewater Monitoring

#### TURBIDITY MODULE

Turbidity

#### ABSORBANCE MODULES

Phosphate Kit

Silicate Kit

Nitrate Kit

*\*Standard modules accommodate 10 x 10mm plastic cuvettes and, using sample adapter, 12 x 75mm round tubes or 12 x 35mm round vials.*

*\*Wide modules accommodate glass or quartz cuvettes, offering the best sensitivity and repeatability, as well as 12 x 75mm round tubes using sample adapter.*

### Contact Us

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