

# CYCLOPS-7F™

## Submersible Sensors



Cyclops-7F Sensors are high performance, compact submersible sensors designed for integration into any platform that provides power and datalogging. Available with multiple optical configurations, Cyclops-7F Sensors have a universal I/O for connection to parent systems. Recently updated to have a faster settling time, Cyclops-7F is ready to make measurements 1 second after power up.



Cyclops-7F interfaces with the Turner Designs DataBank Handheld Datalogger for real-time data in field sampling applications.

Cyclops-7F Sensors easily integrate into third-party platforms. Turner Designs has partnered with several integrators to provide single sensor packages, multi-probes and remote monitoring solutions for *in situ* sampling. Below are examples of a few of those integrations.



Cyclops Logger sold by PME



Trimeter sold by Eureka Water Probes



Wavelet sold by Ayyeka

### PRODUCT HIGHLIGHTS

- Small and available in multiple housing/connector configurations
- Built-in light scatter rejection
- Low power consumption
- Easily integrates into any third-party platform
- Explorer accessory enables various lab applications

### AVAILABLE PARAMETERS

- Blue Green Algae
  - Phycoerythrin (marine)
  - Phycocyanin (freshwater)
- CDOM/FDOM
- Chlorophyll *in vivo*
  - Blue excitation
  - Red excitation (high CDOM)
- Fluorescent Dye Tracing
  - Fluorescein
  - PTSA
  - Rhodamine
- Hydrocarbons
  - Crude Oil
  - Refined Fuels
- Turbidity
- Wastewater Monitoring
  - Optical Brighteners
  - Tryptophan
- Custom Optics Available: 260-900 nm

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### OPTICAL SPECIFICATIONS

	Minimum Detection Limit	Linear Range
CDOM/FDOM	0.1 ppb* 0.5 ppb**	0 - 1,500 ppb* 0 - 3,000 ppb**
Chlorophyll <i>in vivo</i>		
Blue Excitation	0.03 µg/L	0 - 500 µg/L
Red Excitation (high CDOM)	0.3 µg/L	0 - 500 µg/L
Fluorescein Dye	0.01 ppb	0 - 500 ppb
Oil - Crude	0.2 ppb**	0 - 1,500 ppb**
Oil - Fine	0.4 ppm***	0 - 20 ppm***
Optical Brighteners	0.6 ppb**	0 - 2,500 ppb**
Phycocyanin	2 ppb <sup>PC</sup>	0 - 4,500 ppb <sup>PC</sup>
Phycoerythrin	0.1 ppb <sup>PE</sup>	0 - 750 ppb <sup>PE</sup>
PTSA Dye	0.1 ppb**	0 - 650 ppb**
Rhodamine Dye	0.01 ppb	0 - 1,000 ppb
Tryptophan	3 ppb	0 - 5,000 ppb
Turbidity	0.05 NTU	0 - 1,500 NTU

\* Quinine Sulfate

\*\* PTSA (1,3, 6, 8 - Pyrenetetrasulfonic Acid Tetrasodium Salt)

\*\*\* BTEX (Benzene, Toluene, Ethylbenzene, Xylenes)

PC Phycocyanin pigment from Prozyme diluted in Deionized water

PE Phycoerythrin pigment from Prozyme diluted in Deionized water

### POWER REQUIREMENT (mW@12V)

CDOM/FDOM	240	Phycocyanin	160
Chlorophyll <i>in vivo</i>	240	Phycoerythrin	270
Fluorescein Dye	145	PTSA Dye	320
Oil - Crude	250	Rhodamine Dye	175
Oil - Fine	530	Tryptophan	540
Optical Brighteners	200	Turbidity	120

### FLUOROMETER PERFORMANCE

Linearity: 0.99R<sup>2</sup>

### PHYSICAL DIMENSIONS

Length x Diameter:

5.7" x 0.9"; 14.48 x 2.23 cm (SS or Ti)

5.7" x 1.25", 14.48 x 3.18 cm (Delrin)

Weight: 5.0 oz; 142 grams

### ENVIRONMENTAL CHARACTERISTICS

Temperature Range:

Ambient: 0 to 50 deg C

Water Temp: -2 to 50 deg C

Depth Range: 600 meters

Signal Output: 0 - 5 VDC

Supply Voltage Range: 3 - 15 VDC

### WHO WE ARE

Since 1972 Turner Designs has provided over 75,000 sensitive, reliable and easy-to-use fluorometers for environmental and industrial uses. We specialize in sensitive detection of materials with fluorescence properties. With distributors around the world, we provide free technical support for the life of our instruments.



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