

Seapoint Ultraviolet Fluorometer



Description

The Seapoint Ultraviolet Fluorometer (SUVF) is a high-performance, low power instrument for in situ measurements of chromophoric dissolved organic matter (CDOM).

Its small size, very low power consumption, high sensitivity, wide dynamic range, 6000 meter depth capability, and open or pump-through sample volume options provide the power and flexibility to measure CDOM in a wide variety of conditions.

The SUVF uses modulated ultraviolet LED lamps and excitation filter to excite CDOM present in water. The fluorescent light emitted by the CDOM passes through a blue emission filter and is detected by a silicon photodiode. The low level signal is then processed using synchronous demodulation circuitry which

Features

- wLow power requirements
- wCan be used in pumped or open deployments
- w6.6" (16.8 cm) L x 2.5" (6.4 cm) D
- w6000 m depth capability
- wGood ambient light rejection
- wLinear output with CDOM concentration
- wRange settings of 50, 150, 500 and 1500 $\mu\text{g/l}$ selected externally via two control lines
- wLow temperature coefficient
- wLow offset voltage does not require adjustment across gains
- wPin compatible with other Seapoint sensors
- wInterfaces easily with data acquisition systems
- wRugged, corrosion-free materials

Applications

- wOcean color research
- wWastewater discharge quality
- wRadiative transfer studies
- wDOM cycle studies

generates an output voltage proportional to CDOM concentration.

The SCF may be operated with or without a pump. The sensing volume may be left open to the surrounding water, or, with the use of the supplied cap, can have water pumped through it.

Two control lines allow the user to set the sensitivity to one of four options. These lines may be hardwired or microprocessor controlled to provide a suitable range and resolution for a given application.

The sensor is easily interfaced with data acquisition packages; a 5 ft. pigtail is supplied. Custom configurations are available.



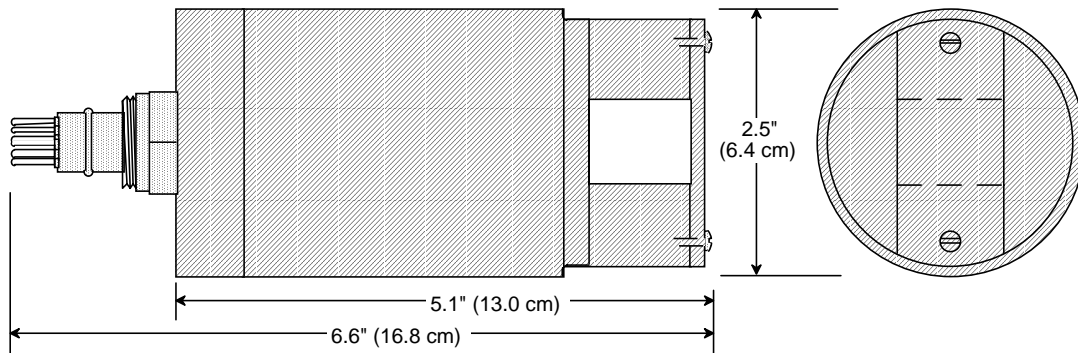
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Specifications

w Power Requirements	8.5-20 VDC, 27 mA avg., 50 mA pk.		
w Output	0-5.0 VDC		
w Output Time Constant	1.0 sec.		
w Excitation Wavelength	370 nm CWL, 12 nm FWHM		
w Emission Wavelength	440 nm CWL, 40 nm FWHM		
w Sensing Volume	340 mm ³		
w Minimum Detectable Level	0.1 µg/l (quinine sulfate)		
w Sensitivity/Range (quinine sulfate)	<u>Gain</u>	<u>Sensitivity, mV/(µg/l)</u>	<u>Range, µg/l</u>
	30x	100	50
	10x	33	150
	3x	10	500
	1x	3.3	1500
w Depth Capability	6000 m (19,685 ft)		
w Weight (dry)	1000 g (2.2 lbs)		
w Operating Temp.	0°C to 65°C (32°F to 149°F)		
w Material	ABS plastic		
w Underwater Connector	Impulse AG-306/206 (others available on request)		

Dimensions

Open Configuration (no pump)



Pumped Configuration

