

Seapoint Chlorophyll Fluorometer



Description

The Seapoint Chlorophyll Fluorometer (SCF) is a high-performance, low power instrument for in situ measurements of chlorophyll *a*.

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 chlorophyll *a* in a wide variety of conditions.

The SCF uses modulated blue LED lamps and a blue excitation filter to excite chlorophyll *a*. The fluorescent light emitted by the chlorophyll *a* passes through a red emission filter and is detected by a silicon photodiode. The low level signal is then processed

Features

- wVery low 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 chlorophyll *a* concentration
- wRange settings of 5, 15, 50 and 150 $\mu\text{g/l}$ selected externally via two control lines
- wLow temperature coefficient
- wLow offset voltage does not require adjustment across gains
- wPin compatible with Seapoint Turbidity Meter
- wInterfaces easily with data acquisition systems
- wRugged, corrosion-free materials

Applications

- wOcean Profiling or Moored Measurements
- wWater Quality
- wBiomass and Nutrient Measurements
- wEnvironmental Stress Tolerances

using synchronous demodulation circuitry which generates an output voltage proportional to chlorophyll *a* 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 gains. 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.



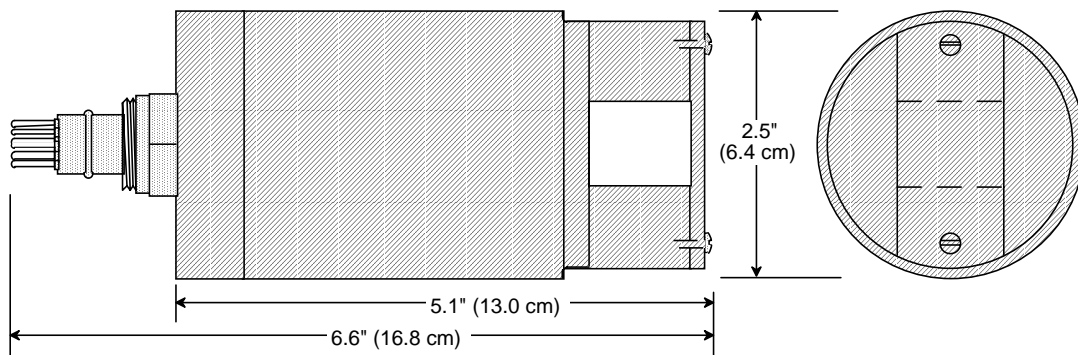
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Specifications

w Power Requirements	8-20 VDC, 15mA avg., 27mA pk.		
w Output	0-5.0 VDC		
w Output Time Constant	0.1 sec.		
w Excitation Wavelength	470 nm CWL, 30 nm FWHM		
w Emission Wavelength	685 nm CWL, 30 nm FWHM		
w Sensing Volume	340 mm ³		
w Minimum Detectable Level	0.02 µg/l		
w Sensitivity/Range	<u>Gain</u>	<u>Sensitivity, V/(µg/l)</u>	<u>Range, µg/l</u>
	30x	1.0	5
	10x	0.33	15
	3x	0.1	50
	1x	0.033	150
w Depth Capability	6000 m (19,685 ft)		
w Weight (dry)	850 g (1.9 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

