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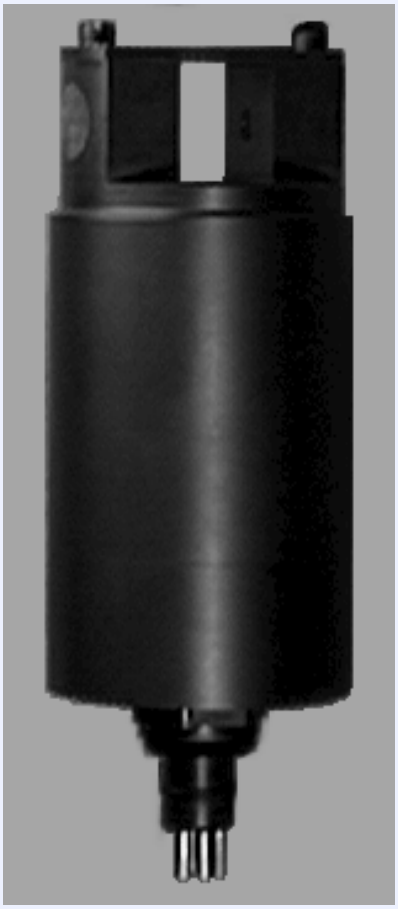
Seapoint Chlorophyll Fluorometer



FEATURES

- Very low power requirements
- Can be used in pumped or open deployments
- Small size
- 6000 m depth capability
- Good ambient light rejection
- Linear output with chlorophyll *a* concentration
- Four programmable ranges
- Low temperature coefficient
- Low offset voltage does not require adjustment
- Pin compatible with Seapoint Turbidity Meter and Seapoint Rhodamine Fluorometer
- Interfaces easily with data acquisition systems
- Rugged, corrosion-free materials

APPLICATIONS

- Ocean Profiling or Moored Measurements
- Water Quality
- Biomass and Nutrient Measurements
- Environmental Stress Tolerances

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 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 range 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.

SPECIFICATIONS

• Power Requirements:	8-20 VDC, 15mA avg., 27mA pk.
• Output	0-5.0 VDC
• Output Time Constant	0.1 sec.

- Power-up Transient Period: < 1 sec
- Excitation Wavelength: 470 nm CWL, 30 nm FWHM
- Emission Wavelength: 685 nm CWL, 30 nm FWHM
- Sensing Volume: 340 mm^3
- Minimum Detectable Level: 0.02 µg/l
- Sensitivity/Range

Gain	Sensitivity, V/µg/l	Range, µg/l
30x	1.0	5
10x	0.33	15
3x	0.1	50
1x	0.033	150

- Temperature Coefficient: < 0.2%/°C
- Depth Capability: 6000 m (19,685 ft)
- Weight (dry): 1000 g (2.2 lbs)
- Operating Temperature: 0°C to 65°C (32°F to 149°F)
- Material: ABS plastic, epoxy
- Underwater Connector: Impulse AG-306/206 (others available on request)

DIMENSIONS