TURNER DESIGNS

CYCLOPS-7

SUBMERSIBLE FLUOROMETER

- Extremely small size – 4.3" x 0.9"
- Affordable price/excellent value
- Very low power consumption
- Dynamic Range:
  0 – 500 µg/L Chl *a*
  0 – 1,000 ppb RWT
- Excellent Turbidity Rejection
- Continuously updated output voltage
- Custom versions available

Product Description

The CYCLOPS-7 line of submersible fluorometers is designed for integration into multi-parameter platforms requiring a high performance, compact sensor at a significantly lower price than traditional submersible fluorometers. The CYCLOPS-7 combination of price, performance and size make the sensor very attractive for oceanographic, freshwater and dye tracing applications.

Although small, the sensor does not compromise measurement performance including sensitivity and dynamic range. The excellent turbidity rejection ensures superior detection limits in a wide range of environmental conditions.

The sensor requires an external power source, and delivers a standard 0 – 5V output voltage to a customer provided external data logger.

Three user settable gain ranges provide a wide measurement dynamic range of 0.03 to 500 µg/L for Chlorophyll *a* and 0.04 to 1000 ppb for Rhodamine WT.

The CYCLOPS-7 fluorometers can be factory configured for a wide range of fluorophores including chlorophyll *a*, Rhodamine WT, Fluorescein, Phycocyanin, Phycoerythrin or custom versions. (Specify desired fluorophore on your order).

Optional Secondary Standard Provides Stability Check

Turner Designs unique Secondary Standards provide a simple and quick way to check for correct operation of the sensor. The Secondary Standard can be adjusted so that when attached to the sensor, the sensor generates a desired output voltage, normally the voltage corresponding to a known chlorophyll or dye concentration.

CYCLOPS-7 stability can then be quickly and easily verified at a desired later time by measuring the sensor output voltage with the same secondary standard.

Pigtail Accessory Provides Standalone Operation

The CYCLOPS-7 sensors are provided with a 2' long pigtail cable so they can be tested and operated independently. The pigtail cable enables connection of a power supply; a multi-meter to read the sensor output voltage, plus sensor gain setting connections. Contact Turner Designs for information on alternative cable lengths for the pigtail connector.

M.Moll / EMS 2002

CYCLOPS-7 was designed specifically for integration into remote instrument platforms by providing the smallest, most energy efficient and sensitive sensor available.

TURNER DESIGNS

CYCLOPS-7 *provides*

- High Performance
- Small Size
- Low Power Consumption
- Excellent Value

CYCLOPS-7 Fluorometer Features and Benefits

FEATURE	BENEFIT
Ultra-compact size	CYCLOPS-7 can be easily added to typical multiparameter systems within existing space constraints
Measurement specifications equal to highest performance field fluorometers	Measurement capabilities are not compromised by using the CYCLOPS-7 compact sensor
Low power consumption compared to traditional field fluorometers; <300 mW typical	In CTD/AUV applications, you can choose between a smaller battery pack or longer operation on each battery charge
Real-time analog output voltage	Measurements can be made at any frequency and interval, as determined by an external data logger
Affordable price/excellent value	Price barrier has been significantly lowered for adding a fluorometer to existing monitoring platforms

CYCLOPS-7 Fluorometer Specifications

ELECTRICAL CHARACTERISTICS

Minimum Detection Limit:
0.03 µg/L chlorophyll *a*
0.04 ppb Rhodamine WT

Dynamic Range:
Chlorophyll *a*:*
- Low sensitivity: 0 – 500 µg/L
- Med sensitivity: 0 – 50 µg/L
- High sensitivity: 0 – 5 µg/L

Rhodamine WT
- Low sensitivity: 0-1000 ppb
- Med sensitivity: 0-100 ppb
- High sensitivity: 0-10 ppb

Linearity:
0.99R^2

Signal Output:
0 – 5 VDC

Supply Voltage Range:
3 – 15 VDC

Power Requirements:
<300 mW typical

* Chlorophyll specifications determined with *Rhodomonas SP* culture

ENVIRONMENTAL CHARACTERISTICS

Temperature Range:
Ambient: 0 to 50 deg C
Water Temp: -2 to 50 deg C

Depth Rating:
600 meters

OPTICAL CHARACTERISTICS

Light Source:
Light Emitting Diode

Detector:
Photodiode

Excitation Wavelength:
Chl 460 nm, RWT 550 nm

Emission Wavelength:
Chl 620-715nm,
RWT 590-715nm

PHYSICAL DIMENSIONS

Length x Diameter:
4.3" x 0.9", 14.0 x 2.2 cm

Weight:
5.0 oz, 160 gm

ORDERING INFORMATION

CYCLOPS-7 Submersible Fluorometer..... P/No. 2100-000
Select: Chl *a* Optical Kit
or: Rhodamine WT Optical Kit
or: Fluorescein Optical Kit
or: Phycocyanin Optical Kit
or: Phycoerythrin Optical Kit
or: contact Turner Designs for custom design sensors
CYCLOPS-7 Solid Secondary Standard ..... P/No. 2100-900

Specifications subject to change without notice

TURNER DESIGNS
845 W. Maude Avenue • Sunnyvale, CA 94085
(408) 749-0994 • FAX (408) 749-0998
www.turnerdesigns.com • Toll free 1-877-316-8049