



SUNA

(Submersible Ultraviolet Nitrate Analyzer)

Chemical free Nitrate sensor



The SUNA nitrate analyzer is the latest addition to Satlantic's line of leading edge water quality monitoring sensors. SUNA is a cost-effective solution for real time, chemical-free nitrate analysis in coastal and freshwater environments. The sensor provides quick, continuous nitrate measurements and easily integrates into existing water monitoring systems. SUNA is complimented by a newly developed Windows™ based software package enabling easy set up, operation and in-field calibrations.

SUNA incorporates the proven MBARI-ISUS nitrate measurement technology, which is in extensive use worldwide. This method of nitrate analysis is based on the absorption characteristics of dissolved inorganic compounds in the UV light spectrum. Chemicals absorb light in the UV and each has a unique absorption spectrum. The SUNA uses advanced UV absorption algorithms to compute the nitrate concentration directly, without the use of reagents. This technology has proven to be robust, sensitive and stable, operating continuously for extended periods of time in remote and harsh environments.

Profiling system – High-resolution nutrient profiles, which were previously unattainable at this rate, have been used in the field to gain insight into nutrient structures.

Fixed platform/moored – SUNA has a multiple outputs for simple interfacing to a variety of logger – telemetry systems.

Towed vehicles – ISUS can be integrated into a towed vehicle where the signal is collected by the vehicles data system or using the integral logger.

Bench top – Whether you are in the lab or in the field, retrieve real time, continuous nitrate measurements easily and accurately.

Features:

- Real-time Nitrate calculation
- Full UV Spectrum for maximum accuracy
- Requires no reagents
- Fast sample frequency
- Low power, compact size
- High data precision and accuracy
- Correction for CDOM and turbidity
- Unique bio-fouling guard for long term deployments
- Analog port for easy integration with CTD and other sensors
- Based on proven MBARI-ISUS technology
- Includes easy to use Windows™ software package

Applications:

- Water quality
- Eutrophication
- Phytoplankton blooms
- Coastal, estuaries and inland waters
- Monitoring groundwater run-off
- Detection of environmental change
- Agricultural drainage systems
- Drinking water reservoirs

Specifications:

PERFORMANCE

Detection range:	0.007 to 28 mg/l-NO ₃ *(0.5 to 2000 µM)
Accuracy:	±0.028 mg/l (± 2 µM) or ± 10% of reading, whichever is greater
Thermal Compensation:	0 to 40 °C
Salinity Compensation:	0 to 50 psu

OPTICS

Path length:	1 cm
Wavelength range:	190 - 370 nm
Lamp type:	Deuterium
Lamp lifetime:	900 h

ELECTRICAL CHARACTERISTICS

Input voltage:	8 - 18 VDC
Power consumption:	7.5 W (0.625 A @ 12V)
Sample rate:	0.5 Hz
Telemetry options:	RS-232 Baud rate user selectable - default 38,400 bps Analog output 0 - 4.096 VDC SDI-12

PHYSICAL CHARACTERISTICS

Depth rating:	100 m (1640 ft)
Length:	533 mm (21 in)
Diameter:	57 mm (2.25 in)
Weight:	2.2 kg (4.8 lb) in air 0.9 kg (2.0 lb) in water
Housing material:	Acetal and titanium also available in Stainless steel (500m)
Operating temperature:	0 to 40 °C

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