



A Versatile UV Nitrate Sensor for Operation in Diverse Environments

The SUNA V2 (Submersible Ultraviolet Nitrate Analyzer) is a chemical-free UV nitrate sensor based on the ISUS (In Situ Ultraviolet Spectroscopy) UV nitrate measurement technology developed at MBARI. Satlantic has adapted the technology to develop the SUNA V2 to measure nitrate in increasingly more challenging environments including extremely turbid and high CDOM conditions. With improved optics and built-in logic intelligence, the SUNA V2 measures nitrate with industry leading accuracy and stability over a wide range of environmental conditions, from blue-ocean nitraclines to storm runoff in rivers and streams.

The SUNA V2 is the ultimate solution for real-time nutrient monitoring. Every SUNA V2 now comes with our proven **universal real-time nitrate processing algorithm**, which has been upgraded to include **adaptive sampling intelligence** that automatically adjusts for signal strength. Also included in every SUNA V2 is a 10 mm pathlength, a class based nitrate calibration, serial data output and a 500 meter depth rating. In addition to these standard features, a wide range of optional features provide the ability to customize the instrument to meet your specific research and deployment needs.

OPTIONAL FEATURES

- ✓ Reduced **5mm pathlength** for high turbidity environments
- ✓ Active fouling control with fully **integrated Hydro-Wiper**
- ✓ Internal **data logging** and **scheduling with 2 GB memory**
- ✓ **Freshwater & seawater** calibrations
- ✓ **USB** communications
- ✓ **SDI-12** interface



Adaptable to a wide variety of deployment scenarios

The SUNA V2 is complemented by **SUNACom software**, an intuitive, user-friendly application which makes SUNA V2 set up, operation and in-field calibrations easy and robust. SUNACom is available for both Windows and Mac operating systems.



SUNA V2 SPECIFICATIONS

PERFORMANCE

Limit of Detection	0.5 μM (FW or SW with T/S corr. processing) 2.0 μM (SW processing)
Detection Range	3000 μM (10 mm path length) 4000 μM (5 mm path length)
Accuracy (greater of)	$\pm 2 \mu\text{M}$ ($\pm 0.028 \text{ mg/l-N}$) or $\pm 10\%$ of reading
Precision (short term)	0.3 μM (FW or SW with T/S corr. processing) 2.4 μM (SW processing)
Drift (per hour lamp time)	0.3 μM (FW or SW with T/S corr. processing) 1.0 μM (SW processing)
Turbidity range	625 NTU (10 mm path length; absent other absorbing species) 1250 NTU (5 mm path length; absent other absorbing species)

CALIBRATION

Seawater, Freshwater, Class-based Freshwater

Real-time temperature-salinity correction available (0-35°C, 0-40 PSU); requires external T/S data.

OPTICS

Path Length	10 mm & 5 mm (high turbidity option)
Wavelength Range	190-370 nm
Lamp Type	Continuous Wave, Deuterium Lamp
Lamp Lifetime	900 h

ELECTRICAL

Input Voltage	8-18 VDC & 8-15 with Hydro-Wiper
Power Consumption	7.5 W (0.625 A at 12 V) nominal

MECHANICAL

Material	Acetal/ Titanium
Depth Rating	500 m 100 m with Hydro-Wiper
Weight	2.5 kg 3.1 kg with Hydro-Wiper
Displacement	1749 cm^3 2092 cm^3