

# SUNA V2

## UV Nitrate Sensor

The SUNA V2 is the ultimate solution for real-time nutrient monitoring. This sensor measures nitrate with industry leading accuracy and stability over a wide range of environmental conditions (including extremely turbid and high CDOM conditions), from blue-ocean nitraclines to storm runoff in rivers and streams. The SUNA V2 incorporates the proven *MBARI-ISUS* nitrate measurement technology, which is based on the absorption characteristics of nitrate in the UV light spectrum.

### Features

- Universal real-time nitrate processing algorithm\*
- Titanium Housing
- Adaptive sampling intelligence
- Accuracy and stability over range of a wide environmental conditions
- 10 mm pathlength
- Serial data output and a 500 meter depth rating.
- SUNACom Windows / Mac software

\*Class based freshwater calibration stock. Specific calibration must be added (freshwater, seawater, high range freshwater).

### Applications

- Long-term nutrient monitoring
- Coastal water profiling
- Water quality monitoring, pollution detection

### Optional Features

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



## Performance

	$\mu\text{M}$	$\text{mgN/L}$
Limit of Detection	0.5 / 0.2	0.007 / 0.0028
Range of Detection	3000 / 4000	42 / 56
Accuracy (greater of)	2 / N/A	0.028 / 0.056
Precision (short term)	0.3 / 2.4	0.004 / 0.034
Drift (per hour lamp time)	0.3 / 1	0.004 / 0.014
Turbidity Range	625 NTU (10 mm pathlength; absent other absorbing species) 1250 NTU (5 mm pathlength; absent other absorbing species)	

See User's Manual for detailed performance specifications.

## Optics

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

## Electrical

Input Voltage	8-18 VDC
Power Consumption	7.5 W (0.625 A at 12 V) nominal

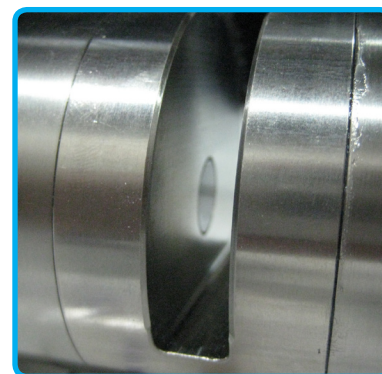
## Mechanical

Material	Titanium
Depth Rating	500 m
Weight	5.1 kg
Displacement	1749 $\text{cm}^3$

## Calibration

Seawater, Freshwater, Class-based Freshwater

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



The Hydro-Wiper is an external anti-fouling system fully integrated with SUNA V2 nitrate sensor. The Hydro-Wiper keeps the SUNA V2 sample windows clean for several months even in the most aggressive fouling environments, helping prevent costly site visits for manual cleaning and loss of data.