

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
- Class based nitrate calibration, serial data output and a 500 meter depth rating.
- SUNACom Windows / Mac software

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



Limit of Detection	0.5 μM (SW with T/S corr. processing) 2.0 μM (SW processing)
Range of Detection	3000 μM (10 mm pathlength) 4000 μM (5 mm pathlength)
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 (SW with T/S corr. processing) 2.4 μM (SW processing)
Drift (per hour lamp time)	0.3 μM (SW with T/S corr. processing) 1.0 μM (SW processing)
Turbidity Range	625 NTU (10 mm pathlength; absent other absorbing species) 1250 NTU (5 mm pathlength; absent other absorbing species)

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 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.