



# Sea-Bird Coastal SUNA V2

## Chemical-free Ultraviolet Nitrate Sensor

The Sea-Bird Coastal SUNA V2 (Submersible Ultraviolet Nitrate Analyzer) is a chemical-free UV nitrate sensor with technology by Satlantic and science by MBARI. It's based on the ISUS (In-Situ Ultraviolet Spectroscopy) UV nitrate measurement developed at MBARI. Satlantic adapted the design to develop the SUNA V2 to measure nitrate in increasingly challenging environments, including extremely turbid and high CDOM conditions.

With improved optics and built-in adaptive sampling 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. The wide range of optional features offered for the SUNA V2 make the sensor a cost-effective choice for routine nitrate measurements.

# Long-term unattended nitrate monitoring with the SUNA

## Applications

Chemical-free solution for autonomous monitoring and profiling of nitrogen-based nutrient concentrations in:

- Lakes and rivers
- Coastal estuaries
- Drinking water reservoirs
- Agricultural drainage systems

## Performance Features and Benefits

- Optional reduced 5mm pathlength for improved performance during high flow/high turbidity storm events
- Adaptive sampling logic automatically tunes the optical operations to real-time environmental conditions for high CDOM applications
- Active fouling control with fully integrated biowiper, ensuring accurate and stable long-term data sets, reducing the need for site visits
- Advanced processing algorithms, using the full UV spectrum for maximum accuracy across the entire sensing range

## Additional Features

- Freshwater & saltwater calibrations
- Optional internal logging and scheduling
- Optional USB connection to PC and MAC for data download

## Data Communications

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 Windows and MAC operating systems.



View live SUNA data on the LOBO monitoring platform at:  
<http://columbia.loboviz.com/>

## Specifications

### PERFORMANCE

#### Accuracy\*

- 2  $\mu\text{M}$ /0.028 mg/L or 10% (10 mm Path Length)

- 4  $\mu\text{M}$ /0.056 mg/L or 10% (5 mm Path Length)

#### Short-term Precision [at 3 $\sigma$ ]

- 0.3  $\mu\text{M}$  (freshwater or seawater with T-S-Correction)

- 2.4  $\mu\text{M}$  (seawater [0-40 psu])

#### Long-term Drift

- 0.3  $\mu\text{M}$  per hour of lamp time [freshwater or seawater with T-S-Correction]

- 1.0  $\mu\text{M}$  (seawater [0-40 psu])

#### Turbidity Range

- 625 NTU (10 mm path length)

- 1250 NTU (5 mm path length)

#### Detection Range

0.007 to 56 mg/l-N (0.5 to 4000  $\mu\text{M}$ )

\* Based on instrument specific calibration

### TECHNICAL

#### Wavelength Range

190-370 nm

#### Lamp Lifetime

900 h

#### Input Voltage

8 – 18 VDC (8 – 15 VDC with wiper)

#### Power Consumption

7.5 W (0.625 A @ 12V) nominal

#### Housing Materials

Acetal/ Titanium

#### Depth Rating

500 m (100 m with wiper)

#### Weight

2.5 kg (3.1 with wiper)

