

Technical Data

Sea-Bird Scientific SUNA Optical Nitrate Sensor



High accuracy in-situ nitrate measurement

- **Product type**
Attended, Unattended
- **Parameters measured**
Nitrate
- **Product highlights**
High-accuracy, chemical-free, in-situ nitrate measurement
- **Interface**
SDI-12, RS-232

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. The wide range of optional features offered for the SUNA V2 make the sensor a cost-effective choice for routine nitrate measurements.

Mechanical	SUNA with Wiper
Material	Titanium
Rated Depth	100 m
Weight (in air)	4.8 kg
Pathlength	10 mm or 5 mm
Length	588 mm/ 583 mm
Diameter	63 mm
Temp Range, Operation	-2 - 35 °C
Temp Range, Storage	-20 - 50 °C

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Electrical

Input	8 - 18 VDC
Input, Sensor with Wiper	8 - 15 VDC
Current Draw, Operation	~ 625 mA at 12V
Current Draw, Standby	~ 20 mA at 12V
Light Source	UV Deuterium Lamp (900 hr lifetime)
Communication Interface	RS232; Analog 4 - 20 mA; (USB, SDI-12 optional)
Data Storage	2GB (optional)

Optical

Spectral Range	190-370 nm
Pathlength	10 mm (5 mm optional)

Nitrate Measurement Accuracy

Concentration Range	10 mm pathlength
Calibration	Sensor Specific*
up to 14 mg N/L	0.028 mg N/L or 10%
up to 28 mg N/L	0.028 mg N/L or 15%
up to 42 mg N/L	0.028 mg N/L or 20%
up to 56 mg N/L	out of range
Calibration	Class Based**
up to 14 mg N/L	0.035 mg N/L or 20%
up to 28 mg N/L	0.035 mg N/L or 25%
up to 42 mg N/L	0.035 mg N/L or 30%
up to 56 mg N/L	out of range

Concentration Range	5 mm pathlength
Calibration	Sensor Specific*
up to 14 mg N/L	0.056 mg N/L or 10%
up to 28 mg N/L	0.056 mg N/L or 15%
up to 42 mg N/L	0.056 mg N/L or 15%
up to 56 mg N/L	0.056 mg N/L or 15%
Calibration	Class Based**
up to 14 mg N/L	0.063 mg N/L or 20%
up to 28 mg N/L	0.063 mg N/L or 25%
up to 42 mg N/L	0.063 mg N/L or 25%
up to 56 mg N/L	0.063 mg N/L or 25%
* A sensor specific calibration uses extinction coefficients from the sensor itself	
** A class based calibration uses extinction coefficients that are the average of many sensors	

Nitrate Measurement Precision

2-3

We reserve the right to make technical changes and improvements without notice. V-19/02/2026

OTT Hydromet GmbH, Germany



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Processing Configuration	Seawater or Freshwater with T-S Correction
Short-term precision (3 sigma)	0.004 mg N/L
Change ("drift") per hr of lamp time	<0.004 mg N/L
Processing Configuration	Seawater (0-40PSU)
Short-term precision (3 sigma)	0.034 mg N/L
Change ("drift") per hr of lamp time	<0.014 mg N/L
Limit of Detection and Limit of Quantification	

Processing Configuration	Seawater or Freshwater with T-S Correction
Limit of Detection	0.004 mg N/L
Limit of Quantification	0.014 mg N/L

Processing Configuration	Seawater (0-40 PSU)
Limit of Detection	0.034 mg N/L
Limit of Quantification	0.112 mg N/L