

NITRATE SENSOR

NL SERIES



FEATURES & BENEFITS

- Accurate and reliable monitoring of nitrates (NO_3)
- Optical measurement method (reagent free)
- Wastewater to high purity measurement ranges
- Operator friendly, low maintenance design
- Easy to install and operate
- Liquid Ai compatible for optional Remote Monitoring service

MUNICIPAL DRINKING WATER
MUNICIPAL WASTEWATER
INDUSTRIAL PROCESS WATER
INDUSTRIAL WASTEWATER

WATER QUALITY
MONITORING
SOLUTIONS

REAL-TIME MONITORING SOLUTION

NL Series Nitrate Sensor

Real Tech's NL series bypass sensor provides real-time measurement of nitrate (NO_3) in water or wastewater. Designed to meet the needs of many monitoring applications, the series offers multiple sensor path length selections for the desired measurement range.

Controllers And Accessories

Our innovative modular product platforms allows a system to be configured around the ideal sensor with controller options and various accessory products, including automatic chemical cleaning systems that lower maintenance while improving system performance and dilution systems that extend the measurement range for highly concentrated wastewaters. We can truly meet the physical demands of any installation, wastewater or high purity, to ensure reliable, continuous operation.

Real-time Actionable Data

With the right sensor and hardware configuration, we then build a custom calibration to monitor nitrate in real time, accurately and reliably.

MEASUREMENT PRINCIPLE

The NL sensors utilize UV-VIS light for measurement as nitrate ions have a natural absorbance peak in the 200-220 nm wavelength range. Common interferences with nitrate measurement, such as organic compounds, nitrite, iron (II), and turbidity or suspended solids are automatically compensated for by measurements at additional reference wavelengths in the UV-VIS spectrum where the interfering compounds absorb, but nitrates do not. The NL series sensors benefit from Real Tech's innovative Split-Sense Pro technology that compensates for lamp drift and fluctuations, providing an accurate and stable output overtime.



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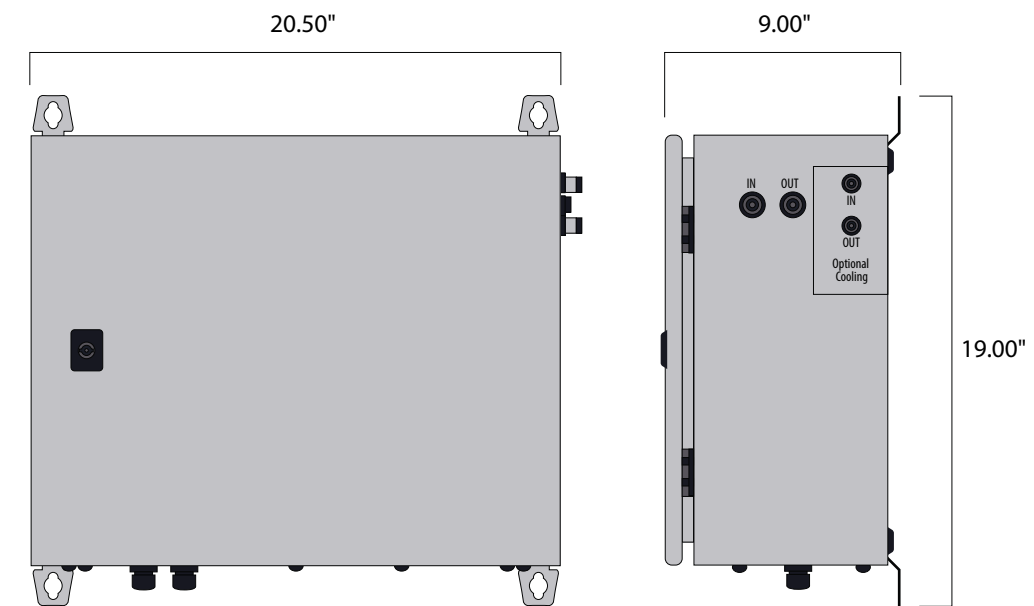
NITRATE SENSOR SPECIFICATIONS

CHARACTERISTIC	TECHNICAL DATA						
MODEL	NL2010	NL2020	NL2040	NL2080	NL4025	NL4050	NL4150
Path Length	1 mm	2 mm	4 mm	8 mm	25 mm	50 mm	150 mm
Parameters	NO ₃ ⁻ , NO ₃ ⁻ N						
Units	mg/L, ppm						
Sampling Time	1 minute						
Calibration	Zero to DI water. Factory parameter calibration allows field adjustment as required.						
Cleaning	In-situ chemical cleaning makes cleaning quick and easy. Automatic chemical cleaning is optional.						
Self-Diagnostics	Detection and diagnosis of internal system fault						
Alarms	Dry contact terminals allow for operator configurable alarms for: high and low set points, low lamp output, leak detect, system fault, etc.						
Humidity Control	Humidity sensor with large plug-in regenerating desiccant system						
Wavelengths	Configurable up to 40 wavelength between 200-750 nm						
Light Source	Xenon Flash Lamp						
Lamp Life	2-5 years						
Dimensions	19.0"H x 20.5"W x 9.0"D						
Enclosure	NEMA 4, wall mountable						
Flow Rate	300-1000 mL/min						
Pressure Rating	20 PSI						
Fluid Connections	1/4" tube push-in fittings						
Electrical/Comm.	From controller						
Storage Temp.	-20 to 60°C (-4 to 140°F)						
Operating Temp.	0 to 45°C (32 to 113°F)						
Weight	44 lb						
Technology	Split-Sense Pro						
Warranty	2-year limited warranty (Extended care packages available)						
Sensor Upgrades	Cooling Upgrade I, Cooling Upgrade II, Ultra High Temp./Chemical Upgrade, Seawater Upgrade						

* Technical Specifications are subject to change without notice.

DIMENSIONS

NL series sensor is a bypass cabinet instruments installed directly on a wall, railing or system backboard. Sample is supplied to the sensor from either a pressurized source or from an open-channel using an accessory pumping system.



MODELS & RANGE

NL series models include nitrate sensor, flow cell, calibration bottle and dehumidifier. Controller and accessories sold separately.

MODEL #	PATH LENGTH	NO ₃ ⁻ N (mg/L)	NO ₃ ⁻ (mg/L)
NL2010	1 mm	0 - 50	0 - 220
NL2020	2 mm	0 - 25	0 - 110
NL2040	4 mm	0 - 12.5	0 - 55
NL2080	8 mm	0 - 6.25	0 - 27.5
NL4025	25 mm	0 - 2	0 - 8.8
NL4050	50 mm	0 - 1	0 - 4.4
NL4150	150 mm	0 - 0.33	0 - 1.45

* Stated ranges are approximate, dependent on industry, site and application - contact Real Tech to confirm model selection
 * Higher maximum range possible with use of Dilution System option

CONTROLLERS

PRODUCT #	NAME	DESCRIPTION
S-169000	Real Controller	Wall mounted controller with 4-line x 20-character back lit LCD display for sensors
S-11TPC	Real Controller Pro	Wall mounted controller with touch panel PC interface (PC inside cabinet model)
S-11TPCD	Real Controller Pro	Wall mounted controller with touch panel PC interface PC external on door model)

ACCESSORIES

PRODUCT #	NAME	DESCRIPTION
UVT-078130	Real Clean System I	Automatic chemical cleaning system for use with 2000 and 3000 series models
UVT-118010	Real Clean System II	Automatic chemical cleaning system for use with 4000 series models
UVT-079121	Pump Clean System I	Self-priming pump and automatic chemical cleaning for use with 2000 and 3000 series models
UVT-129122	Pump Clean System II	Self-priming pump and automatic chemical cleaning for use with 4000 series models
S-159124	Air Purge Clean System I	Automatic chemical cleaning, air purge and pump (vertical lift less than 8 ft and pumping distance less than 25ft)
S-179125	Air Purge Clean System II	Automatic chemical cleaning, air purge and booster pump (vertical lift exceeds 8ft or pumping distance exceeds 25 ft)
S-179126	Air Purge Clean System III	Automatic chemical cleaning and air purge. Client supplies pump or water is pressurized
S-169092	Dilution System I	Dilution system, automatic chemical cleaning, air purge and pump (vertical lift less than 8 ft and pumping distance less than 25ft)
S-179093	Dilution System II	Dilution system, automatic chemical cleaning, air purge and booster pump (vertical lift exceeds 8ft or pumping distance exceeds 25 ft)
S-179094	Dilution System III	Dilution system, automatic chemical cleaning and air purge. Client supplies pump or water is pressurized
S-1789121	Dual Feed II	Dual feed option includes Digital I/O module for use with controllers

Real Tech Inc.

1150 Champlain Court,
Whitby, Ontario L1N 6K9 Canada
TF: 1.877.779.2888 T: 1.905.665.6888
info@realtechwater.com



(주)엠씨마스터스

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