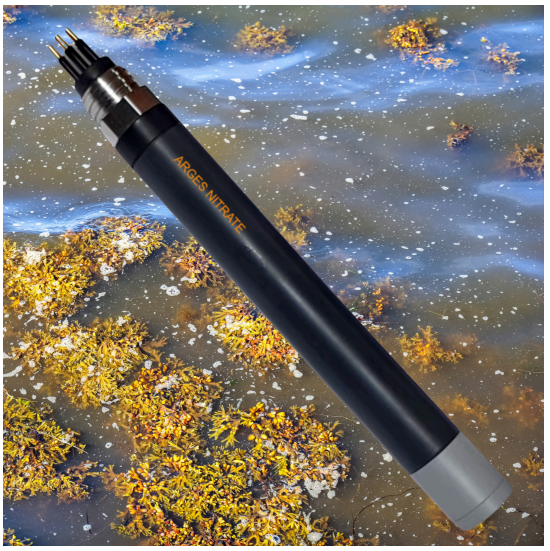
Keynes Controls Ltd
Instrumentation Design & Manufacture

ARGES Nitrate Sensor

Protecting Our Waterways: Precision Pollution Detection Made Easy

The **ARGES Nitrate Sensor** is an intelligent submersible fluorometer manufactured by Keynes Controls. It is a single-channel instrument capable of detecting and reporting the **concentration of nitrate ions in water in real time, helping support pollution monitoring, water quality assessment, and effluent detection across a range of environments. This enables:**

- Early pollution detection by identifying elevated nitrate levels linked to agricultural runoff, wastewater discharge, and industrial effluent.
- Better water quality management through real-time monitoring that supports faster response, trend tracking, and informed environmental decisions.

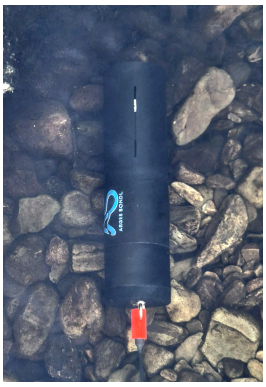


Why Measure Nitrate: We measure Nitrate to monitor water quality and detect rising nitrate concentrations that can affect the safety of drinking water and the health of aquatic environments. This is especially important in agricultural areas, where the use of inorganic fertiliser and animal manure has driven nitrate levels higher across many water resources. Nitrate levels indicate the extent of contamination from these sources and the potential risk to public health. The Nitrate Sensor detects and reports Nitrate levels in real time, helping operators track changes in water conditions and respond quickly to potential contamination.

Pollution Detection: The ARGES Nitrate Sensor identifies elevated nitrate levels in water, flagging contamination from agricultural runoff, wastewater discharge, and industrial effluent.

OPC-UA Communications - (Open Platform Communications Unified Architecture) Contact Keynes Controls for further details.

The **ARGES Nitrate Sensor** - Fast, Simple Nitrate Monitoring!



Multiparameter SONDE Deployment

Constructed from high-grade stainless steel tubing, the **ARGES Nitrate Sensor** is designed for use as a stand-alone laboratory instrument or as part of a multi-parameter device within a SONDE, making it ideal for fixed installation monitoring applications.

The sensor is purely digital in operation and offers high performance measurements. The advanced power saving design ensures the sensor is ideal for remote operations. The sensor can be used as a standalone sensor or as part of a multiparameter system. **Easy to use, fairly priced, and built to deploy in minutes.**

All ARGES fluorometers have built-in temperature sensors that can be used to record the sample temperature.

Nitrate Technical Features

Type	Range
Solid state ISE sensor	
Measurement Range:	0-30000 mgl /0-30000 ppm (User Range Set)
Nitrate Resolution:	0.01 ppm
Nitrate Accuracy:	+/- 10% of Reading
Product Size	Small enough to fit into outlet pipes. Dimensions: Length x Diameter:22 x 205 mm
Calibration Period	User calibrated - recommended before each deployment
Interference IONS	ClO4-, ClO5-,I-, CN-, BF4-
pH Range	2-11
Operating Temperature	1 to 60 Deg C
Built-in Digital Communications	SDI12 / RS485 / MODBUS Digital Communications (16 & 32 Bit Registers)
Depth	50 m - Default
Simple Calibration	Multi-point Calibration Point Optional
SI Units SDI12 V1.4	ppm, mg/l, mol/dm³, Deg °C
Analogue Output - Optional 0-2 V DC	Output proportional to Concentration / Temperature

Calibration Operations

Temperature has a direct effect on Nitrate levels. The ARGES Nitrate sensor is calibrated over the temperature range into which it will be deployed. Temperature compensation factors are determined using the environmental testing and preset into the sensor before shipment.

Communications

All ARGES chemical sensors support SDI12, RS485 and MODBUS operations. The sensor acts as a slave unit when used compatible controllers and SCADA systems, the sensor supports 16- and 32-bit register addressing. A range optional USB converters are available to connect the sensor a Windows PC connection. The media converts can power the sensor directly from a PC USB port.

Q-LOG Product Application Software

The ARGES Nitrate Sensor includes free Q-LOG software for Windows to configure sensors and view real-time Measurements. An optional USB interface connects individual sensors and the multiparameter housings directly to a Windows PC.

Further information:

The majority of nitrate in groundwater in the UK is derived from diffuse pollution from agriculture, with the rest from sewage sludge disposal to land, atmospheric deposition and point sources. Nitrate levels in our water resources have increased in many areas due to applications of inorganic fertiliser and animal manure in agricultural areas. The regulatory limit for nitrate in public drinking water supplies was set to protect against infant methemoglobinemia, but other health effects have not been considered. For more information, please visit the website: www.keynes-controls.co.uk

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