

RTC-N/DN MODULE REAL-TIME NITRIFICATION/DENITRIFICATION CONTROL SOLUTION

Applications

- Municipal wastewater
- Industrial wastewater



Nitrification/Denitrification. Under Control.

Hach®'s RTC-N/DN System, designed specifically for intermittend operated plants and sequencing batch reactors, optimises nitrogen elimination by determining the optimal times for nitrification and denitrification based on the continuous measurement of ammonium and nitrate concentrations.

Maintain compliance based on stable nitrogen discharge values

Controlling aerobic and anoxic cycles through ammonia and nitrate makes your process more consistent. The RTC-N/DN system continually monitors your mixed liquor ammonia and nitrate levels and responds automatically to load changes, keeping your facility compliant. Controlling your process has never been so simple.

Load-dependent aeration

RTC is a plug-and-play system that is ready to use after a very simple set up. Minimal downtime is needed to install the system and once installed Hach will help you program your setpoints so you are fully prepared to monitor and treat your water in real time.

Reduced energy consumption

Optionally the RTC-N/DN module is preprogrammed with algorithms that adjust blowers to maintain your desired DO setpoint based on ammonia and nitrate levels. By treating only when needed, you save on energy costs.

Predictive diagnostics

Prognosis is a predictive diagnostic system that allows you to be proactive in your maintenance, by alerting you to upcoming instrument issues. Know with confidence whether changes in your measurements are due to changes in your instrument or your water.

When we say Service, we mean Service!

A complete Service package includes local field service experts to provide routine maintenance visits and warranty repair, plus a team of remote technical experts with the ability to monitor your system to ensure optimum performance. It's like having a Hach Technician right there with you at the facility.

Principle of Operation

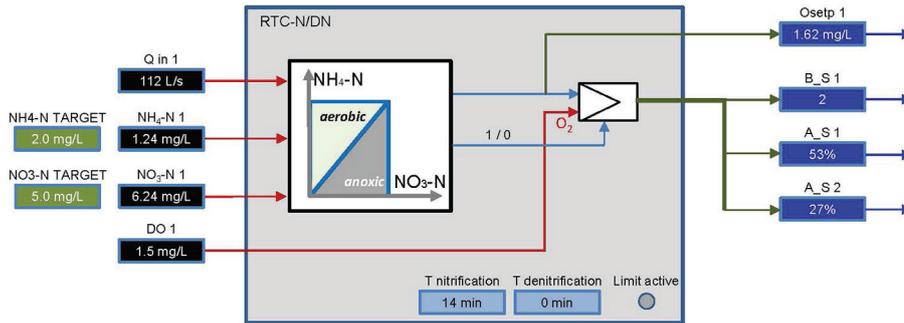
The RTC-N/DN controller determinates for intermittend operated plants the time for nitrification and denitrification according to the measurements of $\text{NH}_4\text{-N}$ and $\text{NO}_3\text{-N}$ in the aeration tank. The N/DN controller is designed as proportional-differential controllers (PD controllers) and considers absolute concentrations as well as the rate of change for these parameters.

The RTC-N/DN provides a DO-set point for the nitrification phase considering the actual $\text{NH}_4\text{-N}$ in the aeration tank. The calculated DO set point is limited by min-max values.

As an option an additional dissolved oxygen controller (RTC-DO) is able to activate up to six aeration devices in order to control a single DO concentration to the DO setpoint calculated by the RTC-N/DN.

If input signals for ammonium and nitrate are not available the system automatically switches to fallback strategies.

The RTC-N/DN control software can be combined with other control software modules and has to be hosted by a specific hardware.



Order Information

RTC-N/DN Module

- LXV408** RTC-N/DN Module, complete solution, incl. software & hardware. Control module for load-dependent control of nitrification and denitrification times in intermittently operating WWTPs. Available as 1- or 2-channel version.
- LXZ520** RTC-N/DN Module, software only. To be used with LXV515. Control module for load-dependent control of nitrification and denitrification times in intermittently operating WWTPs. Available as 1- or 2-channel version.
- An additional DO controller is available as option.
- LXV515** IPC Hardware

Please note: Using RTC Module requires SC1000 controller and RTC card.

Be certain in your control with a first class Service Partner. Be confident with Hach Service.

Hach's Commissioning Service for RTC provides the insurance that your complete Real Time Control solution is installed and configured properly as well as optimised efficiently. During the commissioning period (Start Up phase, Commissioning phase, Hand over phase), Hach will thoroughly monitor your system and review and analyse your data remotely in order to provide guidance to optimise your RTC at its highest performance and efficiency levels for your application.