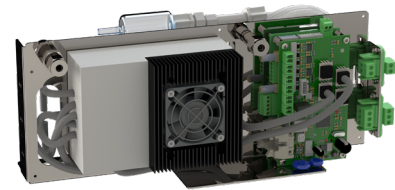


Chemiluminescence detector (CLD) for NO_x - measurement



for Automotive, Gas analysis

Technology fields

MSR technology, gas analysis, optical measurement technology

Project requirements

The **project objective** was to develop a device for measuring the concentration of nitrogen oxides (NO and NO_x) in the exhaust gas of vehicles and combustion processes. The challenge here was to achieve an enormously high dynamic range with measuring ranges between 0-100 ppm and 0-3000 ppm. The detection limit was to be only a few parts-per-billion. Another challenge was to minimize the falsification of the measurement signal by interfering components, such as water and carbon dioxide. In addition, the device had to be designed for a limited installation space.

Facts/Highlights

- direct measurement method
- high dynamic range and very stable measurement
- fast response time (no dead times)
- combination with NO_x-converter (catalyst) possible
- very good signal-to-noise ratio (SNR)
- integrated ozone generator (O₂/air)

Services of KNESTEL

Potential analysis, target price estimation, project management, specifications, project planning, development of software and hardware, electrical and mechanical design, EMC test, prototyping, series production

Possible applications

- Exhaust gas analysis automotive
- Immission and emission measurement
- Process monitoring (e.g. burner efficiency)
- NO₂-measurement in buildings
- Water analysis TNB (Total Nitrogen bound)

Our projects in the field of gas analytics are constantly evolving.
You can find the latest information at www.trace-gas.com

About KNESTEL: Knestel has been developing and producing customized electronic and mechatronic special solutions in the fields of motor and machine control, frequency converters, image processing, MCR technology, software development, radio, bus systems and gas analysis for 40 years. We support our customers from the idea to the finished implementation. Individual solutions and concepts - technically up to date. Our production - electronics manufacturing, device and switch cabinet construction, Production of subassemblies, assembly and mechanical processing - is equipped with the latest technology.