

TRACE-GAS NO_x analyzer

(CLD - Chemiluminescence detector)



The TRACE-GAS NO_x analyzer combines reliability, fast response and easy handling in one instrument.

+ direct measurement

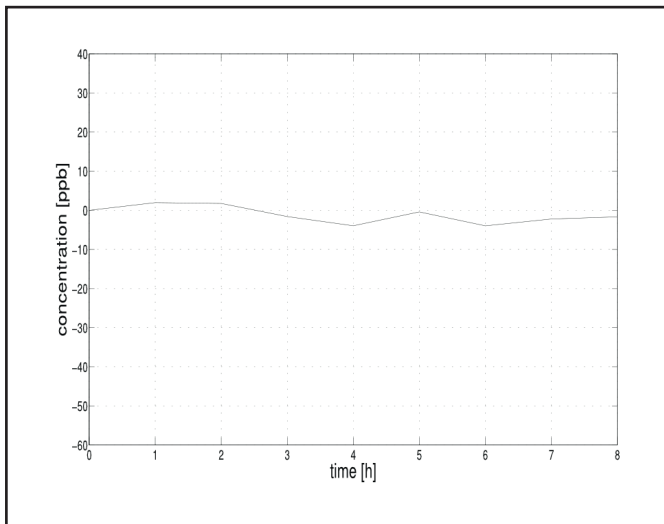
+ high dynamic range

+ fast response time

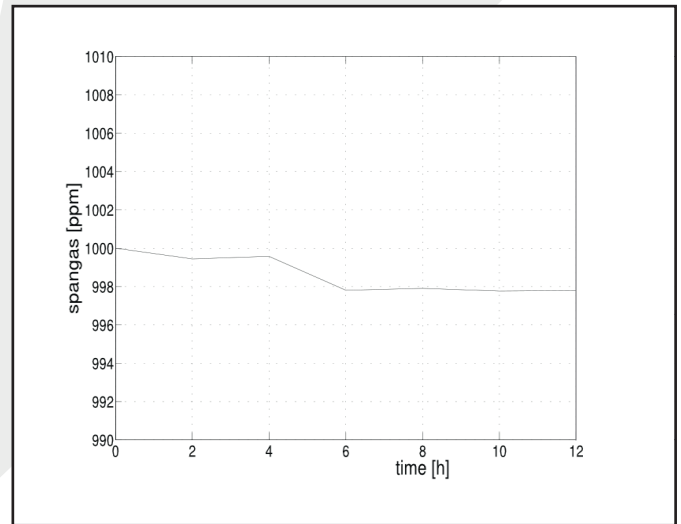
- direct measuring method
- extremely stable measurement values
- high dynamic range
- fast response time
- very good signal-to-noise ratio (SNR)
- 7" touch screen
- intuitive user interface
- extremely low maintenance
- high life span
- modular design

TRACE-GAS
www.trace-gas.com

Performance of the CLD (NO_x):



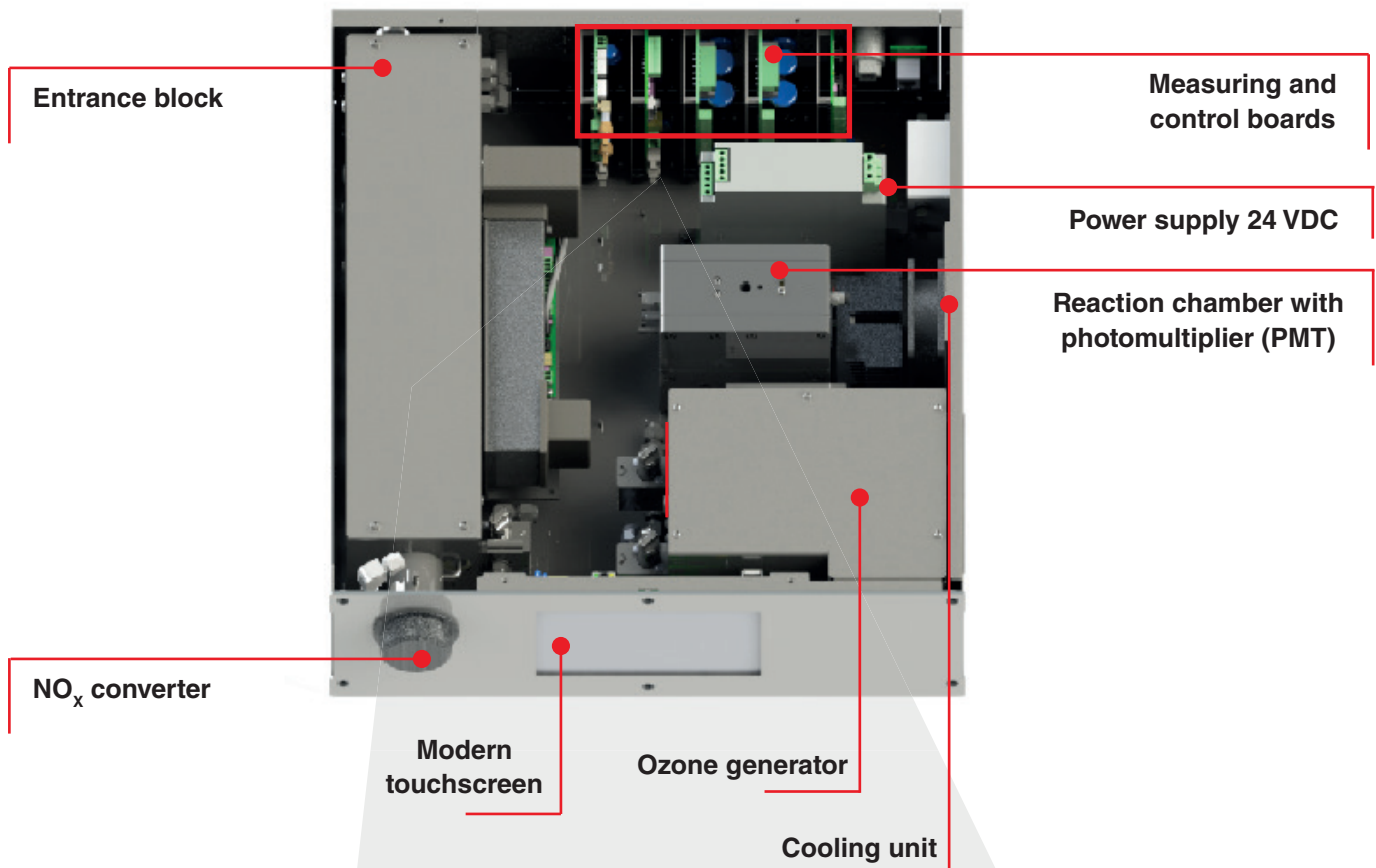
Zero drift



Span drift

Modular design with:

- Heated entrance block
- Stainless steel piping
- Analog output
- NO_x converter (with front access)
- Ozone generator
- Reaction chamber



CLD_{mono}

sequential measurement of NO and NO_x

The CLD_{mono} is a **mono-channel** detector for the precise detection of nitrogen oxides. The use of a converter and a change-over at the reaction chamber can be used alternately to measure nitrogen monoxide (NO) as well as high-quality nitrogen oxides (NO_x). In addition, the CLD can be used for a pure NO or NO_x measurement.

| | measurement range in ppm: | limit of detection (LOD) in ppb: |
|----------------------|------------------------------|-------------------------------------|
| NO / NO _x | 0 ... 100 - 0 ... 3,000 | < 40 |

CLD_{dual}

simultaneous measurement of NO und NO_x

The CLD_{dual} is a **dual-channel** detector for the precise detection of nitrogen oxides. The parallel reaction chambers enable the simultaneous measurement of NO and NO_x. The CLD_{dual} is heatable up to 190 °C and ideally suited for high as well as low concentrations.

| | measurement range in ppm: | limit of detection (LOD) in ppb: |
|----------------------|------------------------------|-------------------------------------|
| NO / NO _x | 0 ... 100 - 0 ... 3,000 | < 20 |

Possible Applications:

- Automotive industry
- Biomedical (development)
- Chemical and high-tech industry
- Exhaust gases combustion
- DeNO_x plants (development)
- Development of burners and boilers
- Petrochemistry
- Pharmaceutical (development)
- Quality control in production
- Water analysis (TNb)

mono
Basic**dual**
Basic**Technical data**

| | |
|-------------------------------|--|
| Ambient temperature | 15...35 °C (non condensing) |
| Inlet pressure | 800...1,100 mbar |
| Gas flow | 30 - 200 ml/min/channel |
| Communication | Modbus TCP/IP + Analog output 4...20 mA |
| Dimensions (L x W x H) | 19" 3 HU (543 x 485 x 143 mm) |
| Weight | approx. 23 kg |
| Supply voltage | 230 V AC / 50 - 60 Hz |
| Heatable | 70...190 °C (dual) |
| User interface | 7" Touch screen |

Specifications



| | | |
|---|--|-----------------------------------|
| Measuring range (FS) min. | 0...100 ppm | 0...100 ppm |
| max. | 0...3,000 ppm | 0...3,000 ppm |
| Limit of detection (LOD)¹ @ t_{10}-$t_{90} \leq 10$ s | ≤ 40 ppb (3σ , 100s) | ≤ 20 ppb (3σ , 100s) |
| Linearity (greater of) | $\leq \pm 0.5$ ppm or $\leq \pm 1\%$ MV ² (FS: 100 ppm) $\leq \pm 5$ ppm or $\leq \pm 1\%$ MV (FS: 3000 ppm) | |
| Zero drift | $\leq \pm 1$ ppm in 10 h | |
| Span drift | $\leq \pm 1\%$ FS in 10 h | |

¹specified for constant ambient temperature, flow and inlet pressure
²measured value

We are developing and producing custom electronic and mechatronic solutions for more than 30 years. Our cost-efficient solutions in the field of trace-gas analysis (from CLD, TDLAS, PAS, NDIR to FIDs) convince with precision and quality. Join a first-class partnership with us and profit from our innovative team. We invent solutions.

KNESTEL

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