Fast, highly sensitive 2 channel chemiluminescence-based NO-analyzer for all applications involving the measurement of extremely low concentrations. Optimised for airborne use, typically in stratospheric research programs:
typical signal sensitivity of 15 cps/ppt and typical detection limit of < 2 ppt/10 sec (1σ);
extremely compact, light, very low power consumption and fast response time;
totally microprocessor controlled and equipped with different I/O: RS 232, digital I/O, analog signal output.

Available options are:
- NO₂ and NO converters,
- Ozone measurement channel,
- Different design of housing,
- Pressurized housing,
- Measurement data back-up
Performance:

Principle: 2 completely independent channels, with pre-chambers, for NO measurement

Sensitivity: >15 cps/ppt

El. Zero Signal: < 1000 cps

Noise at Zero: < 5 ppt in 1 sec

Detection Limit: 3\sigma: < 5 ppt/10sec (1\sigma: < 6 ppt/sec)

Measurement frequency: 8 Hz max.

Integration Interval: freely selectable in 0.1 sec steps.

Signal Filter: Dynamic, shortest time constant = 0.1 sec. Sliding average, Arithmetic average. Frequency of zero-point determination freely selectable.

Channel Synchronisation: Yes, selectable

T90 Time: < 1 sec, dependent on inlet pressure

Zero Point Drift: < 1% / day

Calibration: Zero point, Span, \(\lambda\)-determination (reaction ratio Pre-chamber/Main-chamber). Calibration data filter is independent of measurement data filter. Measurement channels can be calibrated together with the same gas or individually with different cal. gases.

Linearity: < 1%

Interferences: negligible (can be measured and corrected by pre-chamber principle).

Operating and physical characteristics:

Measuring Range: 0 to 50 ppb

Sample Flow: \(\approx\) 1.7 l/min per channel

O2 flow: \(\approx\) 0.3 l/min per channel

Dry air flow: \(\approx\) 100 ml/min

Reaction chamber pressure: < 10 mbar

Gas inlet: thermostatised

Reaction chamber: thermostatised

Sample inlet: pressure regulated

Operating range:

Pressure altitude: 1000 to 80 mbar

Ambient (cabin) pressure: 750 to 1200 mbar

Ambient Temperature: 5 to 35°C at 5 to 95%RH

Power consumption: < 800 Watt, incl. pump

Operating Power: 28 VDC +/- 1VDC

Housing dimensions: Width x Height x Depth: app. 440 x 735 x 470 mm

Total weight (incl. pump): app. 80 kg