

Fast, accurate, sensitive and direct NO₂ (nitrogen dioxide)

LGR innovates



NO₂ Analyzer (nitrogen dioxide)

Features and Benefits

- Direct measurements of NO₂
- High precision: 0.05 ppb (1 σ , 1 second)
- Data reported at up to 5 Hz
- Low power: 100 watts (standard package)
- Rugged: Proven in the field, in flight, and in the lab
- No zero gas required: automatic chemical zero
- Simple to use
- Linear over wide range of mole fractions

LGR's NO₂ Analyzer uses cavity enhanced laser absorption spectroscopy to measure the mole fraction of nitrogen dioxide continuously and directly in flowing air samples. The Nitrogen Dioxide Analyzer is ideal for a wide variety of monitoring applications of this gas where extreme precision, accuracy and fast response are required. The NO₂ Analyzer's ease-of-use and durability make it an ideal choice for field, flight and laboratory-based applications. LGR's analyzers are used by researchers, scientists, governmental agencies and intergovernmental organizations on all seven continents.

For highest stability and long-term reproducibility, the NO₂ Analyzer is now available in LGR's "Enhanced Performance" packaging. LGR's "Enhanced Performance" series incorporates proprietary internal thermal control for ultra-stable measurements.

The NO₂ Analyzer has an internal computer (Linux operating system) that can store data practically indefinitely on an internal hard disk drive and send real time data to a data logger via the analog, digital (RS232) or Ethernet

outputs. In addition, the NO₂ Analyzer includes an internal in-line air dryer to automatically remove and eliminate effects due to changing moisture in the sample flow and a metal oxide scrubber to automatically provide a chemical zero periodically to eliminate the need for any external "zero" gas.

As with all LGR analyzers, the NO₂ Analyzer may be controlled remotely via the Internet. This capability allows the user to operate the Analyzer using a web browser practically anywhere Internet access is available. Furthermore, remote access allows bios-level control of the instrument and provides the opportunity to obtain and share data and to diagnose the instrument operation without being on site.

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Performance Specifications

Precision (1 σ , 1 second measurement time):

50 ppt

Flow time through measurement cell (1/e):

10 seconds with standard vacuum pump
(1 second with optional external vacuum pump)

**Maximum Drift (Enhanced Performance model)
(15 min average, at STP, over 24 hrs):**

NO₂: 50 ppt

Measurement Range (meets all specs):

0.01 – 1000 ppb

Operational Range:

0 – 3000 ppb

Sampling Conditions:

Sample Temperature: 0 – 50 °C
Operating Temperature: 5 – 45 °C
Ambient Humidity: non-condensing (0-100% RH)

Outputs:

digital (RS232), Ethernet, USB, analog

Power Requirements:

115/230 VAC, 50/60 Hz
100 watts (Standard)
150 watts (Enhanced Performance)

Dimensions:

Benchtop Package: 10" x 38" x 14"
Rackmount Package:
Standard model: 8.75" x 19" x 24"
Enhanced Performance model: 14" x 19" x 24"

Weight:

27 kg (Standard model)
40 kg (Enhanced Performance model)

Ordering Information

908-0009: Benchtop package (standard)
907-0009: Rackmount package (standard)
911-0009: Rackmount package (Enhanced Performance)

Accessories

908-0003-9001: Multiport Inlet Unit – 16 inlet multiplexer
908-0003-9002: Multiport Inlet Unit – 8 inlet multiplexer
908-0001-9011: External vacuum pump –
Flow time response through measurement cell: 0.5 seconds
904-0002: Data Logging System – multi-channel data logging
system records and synchronizes serial (RS-232) outputs from
multiple LGR analyzers and other devices (GPS, anemometers)