

Fast, accurate, sensitive and direct NO<sub>2</sub> (nitrogen dioxide)

LGR innovates



## NO<sub>2</sub> Analyzer (nitrogen dioxide)

### Features and Benefits

- Direct measurements of NO<sub>2</sub>
- High precision: 0.05 ppb (1 $\sigma$ , 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 NO<sub>2</sub> 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 NO<sub>2</sub> 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 NO<sub>2</sub> 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 NO<sub>2</sub> 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 NO<sub>2</sub> 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 NO<sub>2</sub> 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

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**Precision (1 $\sigma$ , 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):**

NO<sub>2</sub>: 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

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

## Accessories

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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)