

N₂O / CO ANALYZER

HIGHEST PRECISION • FASTEST • LOWEST POWER

The N₂O/CO Analyzer is designed for many demanding applications including eddy-correlation flux measurements, chamber flux measurements, combustion diagnostics, and trace-gas monitoring. These Analyzers have been applied successfully on-board NASA DC-8 aircraft for measurements in the upper troposphere / lower stratosphere. In fact, the N₂O / CO Analyzer is ideal for measuring nitrous oxide and carbon monoxide in ambient air with data rates of up to 20 Hz, less than 1% uncertainty (without calibration; much higher accuracy may be obtained with calibration), and better than 0.1% repeatability. The Analyzer is unaffected by other atmospheric gases or changes in atmospheric pressure.

As described in the Theory Section, the measurement strategy is based on high-resolution direct-absorption spectroscopy. The instrument includes an internal computer that can store data practically indefinitely on its internal hard drive (for applications requiring unattended long-term operation), and send real-time data to a data logger through its analog and digital (RS232) outputs. In addition, an Ethernet connection allows remote access to data files stored on the instrument's hard drive.

The instrument includes a non-cryogenic, room-temperature quantum cascade laser and photodetector for easy long-term operation in the field as well as an internal computer that can store data practically indefinitely on its hard drive (for applications requiring unattended long-term standalone operation). The Analyzer can send real-time data to a data logger through its analog, digital (RS232), and Ethernet outputs.

Performance Specifications

Concentration Ranges

N₂O: 1 - 4000 ppbv

CO: 10 - 2000 ppbv

Response Time (flow time through cell)

10 seconds (standard internal pump)

0.1 seconds (optional external pump)

Accuracy

Total uncertainty <1% of reading (w/o calibration)

Repeatability/Precision (1-sigma, ambient levels)

0.3 ppbv (1 second)

Outputs

Digital (RS232), Analog, Ethernet

Data Storage

Internal Hard Drive

Data Rate

0.01-20 Hz

Embedded Display

12.1" Color TFT

Sample Temperature

0-50 °C

Operating Temperature

15-30 °C

Ambient Humidity

<100% Non-Condensing (ambient temperature)

Inlet/Outlet Fittings

3/8", 1/4" Swagelok®

(slow flow, internal pump)

Inlet/Outlet Fittings

3/8", 1/2" Swagelok®

(fast flow, optional external pump)

Power Requirements

150 W (excluding external pump);

115/230 VAC; 50/60 Hz

Dimensions

10" H × 38" W × 14" D

Weight

80 pounds (36 kg)

including internal vacuum pump, embedded video monitor, keyboard, and mouse



Ordering Information

Benchtop Package

Model Number: 908-0014

Option - Dry-Scroll Vacuum Pump (DSVP)

Model	Name
-9001	Dry Scroll Vacuum Pump (DSVP)
-9002	DSVP Maintenance Kit
-9003	DSVP Connection Kit
-9004	DSVP Exhaust Silencer
-9005	24 VDC to 110 VAC Pure Sine Inverter
-9006	24 VDC to 220 VAC Pure Sine Inverter



Accurately measuring the uptake of N₂O and CO in the field has never been easier. Get your results without having to take samples back to your lab.

Field-deployed
in some of
the harshest
environments
on earth, LGR
Analyzers are
designed to
work as hard
as you do.



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