Ammonia Analyzer Travels Anywhere

Ultraportable instrument measures NH_3 in the field

Ultraportable Ammonia Analyzer (NH_3, H_2O)

Features and Benefits

- 15 kg, 60 watts (DC power)
- Absorption spectra always viewable
- NH_3 reported on dry mole basis
- Ideal for soil studies, nitrogen source studies, chamber flux, compliance monitoring
- Wide measurement range
- Species specific - no cross interferences
- Operates on DC or AC power
- 1-Hz measurements: allows observation of transient and time varying flows
- Accurate measurements over a wide range of concentrations
- Reports water vapor up to 60000 ppm

LGR's new Ultraportable Ammonia Analyzer (UAA) reports measurements of ammonia and water vapor simultaneously in a package that is compact, crushproof and travels anywhere. Small enough to be carried on-board aircraft (TSA approved size) and requiring 60 watts, the UAA offers opportunities to measure ammonia anywhere. As with all LGR instruments, the UAA is simple to use and is ideal for field studies, compliance monitoring, leak detection, air quality and soil flux studies, and wherever measurements of ammonia and water vapor are needed.

In addition, the UAA reports and stores all measured absorption spectra which allows the instrument to accurately correct for water vapor dilution and absorption line broadening effects and thus to report NH_3 on a dry mole fraction basis without drying or post processing. Moreover, only LGR's analyzers provide reliable *guaranteed* measurements at mole fractions greater than 100 times ambient levels.

LGR's patented technology, a fourth-generation cavity enhanced absorption technique, has many advantages (simpler, easier to build, rugged) over older, conventional cavity ringdown spectroscopy (CRDS) and direct absorption techniques. As a result, LGR Analyzers provide higher performance at lower cost.

LGR Analyzers have an internal computer (Linux OS) that can store data practically indefinitely on a hard disk drive and send real time data to a data logger via the digital (RS232), analog or Ethernet outputs. In addition, LGR analyzers may be controlled remotely via the Internet. This capability allows the user to operate the analyzer using a web browser anywhere. Furthermore, remote access allows full control of the instrument and provides the opportunity to obtain data and diagnose the instrument operation without being on site.

LGR Los Gatos Research

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Performance Specifications

Precision (1σ, 10 sec):
NH_3: 1 ppb
H_2O: 400 ppm

Measurement Rates:
0.01 – 1 Hz (user selectable)

Accuracy:
uncertainty < 1% w/o calibration (10-35 °C)

Measurement Range (meets all specifications):
NH_3: 1 – 10000 ppb
H_2O: 1000 – 60000 ppm

Operational Range (external calibration may be required):
NH_3: 0 – 200 ppm
H_2O: 0 – 60000 ppm (0 – 100% relative humidity)

Sampling Conditions:
Sample Temperature: -10 – 50 °C
Operating Temperature: 5 – 45 °C
Ambient Humidity: 0 - 100% RH non-condensing

Outputs (all models):
Digital (RS232), analog (all gases), Ethernet, USB

Power Requirements:
60 watts (10-30 VDC)
66 watts (115/230 VAC, 50/60 Hz)

Dimensions:
18.5″× 14″× 7″

Weight:
15 kg

Ordering Information

Model: 915-0016

Accessories (optional)

908-0003-9001: Multiport Inlet Unit – 16 inlet port multiplexer

908-0003-9002: Multiport Inlet Unit – 8 inlet port multiplexer

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)

908-0008-9009: N920 Pump – flow-through time = 1.2 secs

908-0001-9011: N940 Pump – flow-through time = 0.7 secs

Instrument complies with 21 CFR 1040.10 and 1040.11

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