

# Sensitive ammonia measurements in seconds



Absolutely

## Ammonia Analyzer (NH<sub>3</sub>, H<sub>2</sub>O)

### Features and Benefits

- 1-Hz measurements: allow observation of transient and time varying flows
- Accurate measurements over a wide range of concentrations
- High resolution absorption spectra viewable for diagnostics
- Reports ammonia and water vapor simultaneously
- Reports water vapor up to 60,000 ppm
- Low power: ideal for field work
- Enhanced Performance model provides lowest drift and highest accuracy
- Reports ammonia in ethylene flows (optional)

LGR's Ammonia Analyzer provides sensitive measurements of ammonia (and water vapor) in ambient air or in industrial process flows with extremely high precision and sensitivity. No longer do you have to spend a lot of money or wait a long time to measure ammonia with high sensitivity – LGR's Ammonia Analyzer provides measurements every second with ppb-level precision. LGR now offers the option for direct measurements of ammonia in pure ethylene flows (no scrubber) - the world's only analyzer with this capability. In addition, the AA can report measurements quickly over a wide range of concentrations.

LGR's new "Enhanced Performance series" incorporates proprietary internal thermal control for ultra-stable, minimal-drift measurements with unsurpassed precision and accuracy.

The AA is available in different packaging options to allow users to select the one most suitable for their needs. LGR's benchtop package includes a keyboard, mouse, and video monitor. LGR's rackmount package fits in a standard instrumentation rack and requires an external keyboard, mouse, and video monitor.

The Ammonia Analyzer is now available in the new Ultraportable package (called the UAA),

which is compact, crushproof and travels anywhere. Small enough to be carried on-board aircraft (TSA approved size) and requiring only 60 watts (on battery power), the AA-ultraportable offers opportunities to measure NH<sub>3</sub> anywhere. For details, see UAA datasheet.

The AA and UAA use LGR's patented Off-axis ICOS technology, a fourth generation cavity enhanced absorption technique. Off-axis ICOS has many advantages over conventional cavity ringdown spectroscopy techniques such as being alignment insensitive, having a much shorter measurement time, and not requiring expensive auxiliary components.

All LGR instruments include an internal computer (Linux OS) that can store data practically indefinitely on its internal hard drive (for unattended long-term operation), and that can send real-time data to a data logger through its analog, digital (RS232) and Ethernet outputs. Furthermore, the instruments may be controlled remotely via the Internet. This capability allows the user to operate the analyzer using a web browser anywhere Internet access is available. Furthermore, remote access allows the opportunity to control, obtain data from, and diagnose, the instrument without being on site.

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## Performance Specifications

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### Repeatability / Precision (1-sigma):

NH<sub>3</sub>: <1.5 ppb (1 sec), <0.6 ppb (10 sec),  
<0.2 ppb (100 sec)

### Response Time (flow time through meas. cell):

10 s (with standard internal pump),  
<2 s (with optional external N920 vacuum pump)

### Measurement Range:

NH<sub>3</sub>: 0.5 – 10000 ppb  
H<sub>2</sub>O: 100 – 70000 ppm (non-condensing)

### Operational Range:

NH<sub>3</sub>: 0 – 200 ppm  
H<sub>2</sub>O: 0 – 70000 ppm (non-condensing)

### Outputs:

Digital (RS232), Analog, Ethernet, USB

### Data Storage:

Internal Solid State Hard Disk Drive

### Ambient Humidity:

0 – 100%

### Operating Temperature:

5 – 45 °C  
0 – 50 °C

### Inlet / Outlet Fittings:

¼", ⅜", and ½" Swagelok®

### Power Requirements:

115/230 VAC, 50/60 Hz  
100 W (Standard Model)  
300 W (Enhanced Performance)

### Dimensions:

8.75" H x 19" W x 24" D (Standard Model)  
15.75" H x 19" W x 24" D (Enhanced Performance)

### Weight:

29 kg (Standard Model)  
40 kg (Enhanced Performance)

## Ordering Information

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907-0016: Rackmount Package

911-0016: Enhanced Performance Package

## Accessories

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

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

908-0008-9009: N920 Pump

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)

## Options

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Capability for real-time *direct* and continuous ammonia measurements in pure ethylene (without scrubber)



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