Pranalytica's Nitrolux™ Ammonia Sensor

Powered by O-Nose™ Technology

Trace ammonia monitoring for semiconductor clean rooms, industrial facilities and the ambient environment.

Now available in three standard models:

Nitrolux™-1000:	**1 ppb sensitivity**
Nitrolux™-200:	**200 ppt sensitivity**
Nitrolux™-100:	**100 ppt sensitivity**

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Specifications

Parameter	Nitrolux Model		
	1000	200	100
Sensitivity	1 ppb	200 ppt	100 ppt
*Range [ppb]**	0—2000	0—500	0—300
*Full-scale ranges [ppb]***	20,200,2000	5,50,500	3,30,300

**Extended dynamic range available as an option*
***Auto-switching or user-selectable*

Operating Characteristics for Ammonia Detection:

- Response time: 2 minutes for 0 to 80% for a 100 ppb step change
- Ammonia measurements immune from interference from routinely encountered industrial chemicals and solvents
- Response linearity: Over the entire range
- Number of analysis chambers for simultaneous multiple gas stream measurements:
  One (standard)
  Two to sixteen (optional)
- Measurement update rate: 45 seconds
- Absolute sensitivity: ± 10% (traceable to NIST standards); ±5% available as option
- Absolute calibration stability: Guaranteed for 6,000 hours after field calibration; Recalibration recommended every six months
- Measurements: Continuous or on demand

Operating Conditions:

- Ambient operating temperature: 10° C to 30° C
- Ambient operating humidity: 0—95% (non-condensing)
- Storage temperature: -40° C to 60° C
- Elevation: Up to 2000 meters (with option for operation at higher elevations)

Electrical Requirements:

- Line voltage: 110 V (±10% of nominal); 220 V (or other voltages) optional
- Line current requirements: ~1.3 amps
- Electrical power consumption: <150W

Gas Inlet:

- ¼" Standard compression fitting with 40 µm particulate filter
- Gas intake: <500 scc/min
- Inlet gas pressure: 600—1000 Torr
- Continuous draw with built-in vacuum pump
- Gas inlet temperature 0—30 °C (can be extended to lower temperatures with optional configuration)

Physical Dimensions:

- Rack mount: 19" W, 10" H, 24" D
- Weight: 65 lbs.

Monitor:

- Instrument comes standard with a rack-mountable foldout 15" flat-panel display; includes keyboard/mouse
- Graphical User Interface (GUI) includes buttons for operation, instrument health indicators, date, time, and last 6 ammonia readings (optional GUI includes graphing capabilities and internal diagnostics)

Safety and Regulatory Certifications:

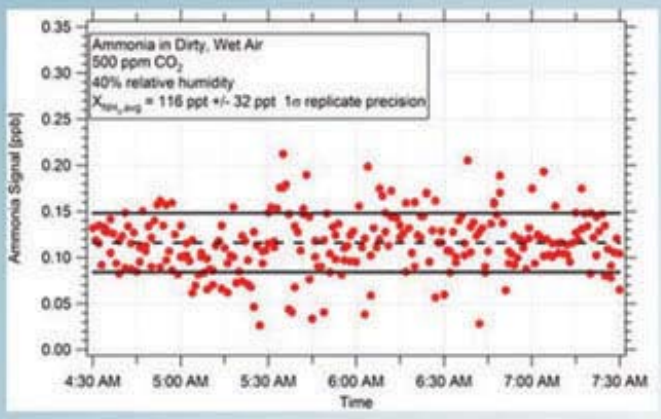
- Tested to UL 2601-1/10.97
- Tested to CAN/CSA –C22.2 No. 601.1-M90

Other:

- Single board computer controls all internal operations (no external computer required)
- Internal data storage: Time stamped ammonia concentration measurements stored on internal hard disk
- Configured for connections to LAN for central accumulation of saved data

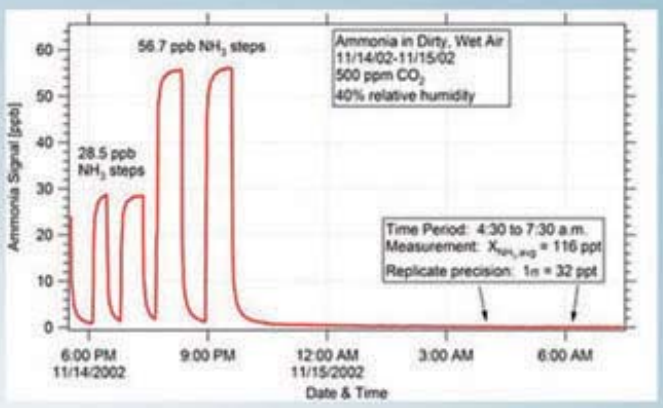
Typical Instrument Results

Sensitivity



Replicate precision for approximately zero ammonia concentration over a 3 hour period

Response Time

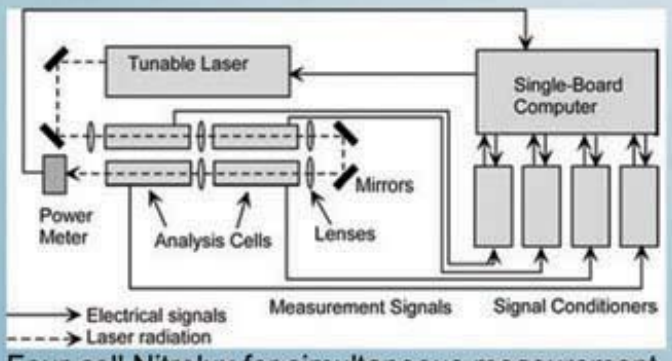


Rise time data for 0 to 28.5 and 0 to 56.7 ppb ammonia input steps

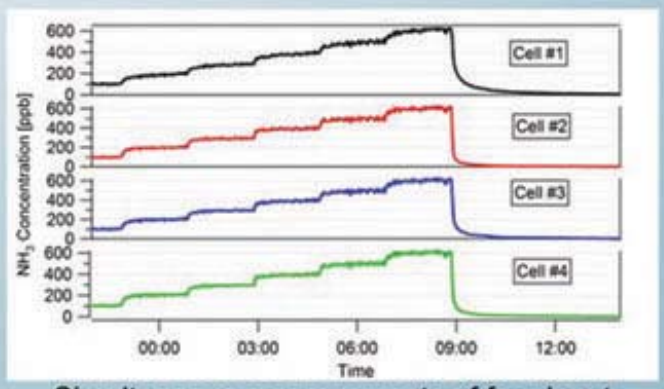
Instrument Options

- Out1: Analog 0—5V and 4—20 mA output proportional to concentration
- T1: Extended gas inlet temperature range: -40—30 °C
- Alt1: Operation at elevations higher than 2000 m (customer-specified)
- S5: 5% absolute sensitivity
- RG1: Extended dynamic range
- AC1: 220 VAC power input
- GUI1: Graphical User Interface with graph of ammonia measurements vs. time for the last 12- or 24-hours (user-selectable); includes internal instrument diagnostics and measurements of CO_2 and H_2O concentration
- MXX: Multiplexing for simultaneous measurement in XX (2,4,8) sample streams

Multi-stream option M4:



Four-cell Nitrolux for simultaneous measurement of four independent input streams



Simultaneous measurements of four input streams through step-wise increments in ammonia concentration from100 ppb to 600 ppb

Measurements of Species Other than Ammonia

Pranalytica's O-Nose™ is a platform technology that can be applied for the detection of numerous gases other than ammonia. The following is an illustrative list of other species for which single-digit ppb (or better) detectivity is available on special order:

- Ethylene
- Propylene
- Isoprene
- Sulfur hexafluoride
- Hydrogen sulfide
- Hydrogen cyanide
- Acetylene
- Methane
- Many Freons
- Many TICs (Toxic industrial chemicals)
- Many Chemical Warfare Agents

Sales & Support

Maintenance and Support Services:

- Operating characteristics guaranteed for 90 days after installation
- Service contract for periodic calibration available (including software upgrades and replacement units, if necessary)

Pricing and Availability:

- Standard configuration (one measurement cell) available 90 days ARO
- For multiple cell configuration, please contact Pranalytica
- For prices, please contact Pranalytica

More Information:

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