

Accurate. Reliable. Cost Effective.

Emissions Monitoring for Compliance & Process Improvement



NH₃ TDL ANALYZER - MODEL 7000

Product Description

A Close Coupled Extractive designed system with the latest low-level measurement technology coupled with acid gas probe and Silcotec coated sampling components.

The NH₃ Analyzer uses Tunable Diode Laser (TDL) technology with flow through cell set-up. The sensor is based on a contact-less, near-infrared absorption measurement of the target gas. The analyzer can be programmed not only to measure NH₃ but HCl, O₂, CO, HCN, H₂S, and others as well.

The Model 7000 features optional cell heated up to 190°C for hot gas measurements for process control and environmental compliance related applications. The system has micro-processor-driven read-out electronics and digital and/or analog data outputs for industry-standard connectivity.

Proprietary electronic lock-in technology allows separating gas absorption information from electro-optical system information, eliminating the need for a physical reference channel and providing continuous sensor status monitoring.



Figure 1 Model 7000 Controller



Model 7000 Bench (left) and Probe (right)

Features and Benefits

- Designed to meet the latest EPA requirements for acid gas monitoring
- For use in Gas Fired applications
- Low Detectable Limit @0.3ppm
- Fastest response: <5 seconds continuous measurement
- Continuous measurement allows observation of transient and time varying flows
- Silcotec coated parts in contact with acid gas for loss rebuttal
- Optical, contact-less measurement
- Accurate laser-diode electro-optics
- Continuous sensor status monitoring
- Low cost-of-ownership

Main applications

Process control:

- Incineration & combustion processes, SCR

Emission monitoring:

- Waste incineration furnaces, Power generation, engine development

Environmental monitoring:

- Landfill & green-house gases

Chemical engineering:

- Production control & monitoring

NH3 TDL Analyzer - Model 7000 Specifications

Performance Data	
Detected Gas	Ammonia (NH ₃)
Measurement Range	0-300ppm, Maximum Range 0-40ppm Minimum Range <i>Calibration to full scale (FS) range, standard is 100 ppm, for safety reasons max. calibration to 100 ppm (linearity up to 500 ppm, will measure 0-1000ppm but no warranty of precision)</i>
Resolution/ Repeatability	0.1ppm (repeatability based on a 5-second averaging)
Accuracy	+/- 2ppm of full scale, temperature and pressure stability dependent
Zero Drift	Less than 1ppm
Span Calibration	Factory calibrated (permanent) 0-300ppm
Update rate	1 second – 5 minutes, software configurable (longer averaging improves precision)

Technical Characteristics	
Sampling Technique	Flow through cell TDLS
Mechanical Dimensions	Probe enclosure, 24"x 12"x9", Controller enclosure, 18"x16"x9"
Operating temperature	15-50°C
Power requirements	110 VAC, 60Hz, 2.0 amp max
Weight	Controller - 40lbs Probe - 50 lbs
Gas cell volume	100 mL
Analog input	0-5V
Sample temperature	190°C
Pressure	0 - 30 psig
Flow rate	0.1 – 3 LPM



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