



Simplify Gas Measurement

- One device that replaces multiple conventional analyzers
- Measure 40+ gases simultaneously
- Multi-Fuel Compatibility
- Drift-Free Calibration
- Cross-Interference Compensation
- Fast Response Time

FTIR (Fourier Transform Infrared) technology provides comprehensive emissions analysis by identifying and quantifying multiple exhaust gas components simultaneously through their unique infrared signatures, eliminating the need for multiple conventional analyzers. A&D's FTIR emissions analyzer systems continuously measure more than 40 regulated and unregulated compounds from raw or diluted exhaust using a single instrument, simplifying emissions testing while supporting catalyst development, emissions compliance, alternative fuel research, and advanced powertrain development.



Multi-Gas Analysis

Measure 40+ gases simultaneously, including NO, NO₂, N₂O, NH₃, CO, CO₂, CH₄, hydrocarbons, alcohols, and carbonyl compounds using a single analyzer.



Lower Cost of Ownership

Drift-free calibration and simplified system architecture reduce maintenance requirements, operating costs, and operator workload compared to conventional analyzer systems.



Future-Ready Testing

Support diesel, gasoline, CNG, hydrogen-related development, and alternative fuels while maintaining flexibility for evolving emissions requirements.

How the FTIR System Works

From the heated sampling system to the FTIR spectrometer and conditioning unit, every component is designed to preserve sample integrity and deliver accurate multi-component emissions analysis. Integrated controls, calibration gas management, and dedicated software provide a complete end-to-end measurement solution.

**Exhaust Sample → Heated Line & Filter → FTIR Spectrometer →
Sample Conditioning → Software & Data Analysis**

Technical Specifications

Feature	Capability
Measurement Technology	Fourier Transform Infrared (FTIR)
Gas Measurement Capacity	40+ regulated and unregulated gases including NO, NO ₂ , N ₂ O, NH ₃ , hydrocarbons, alcohols, and carbonyl compounds.
Sample Types	Raw or diluted exhaust
Sampling Rate	User selectable, 1 to 5 Hz
Response Time	T10-90 approximately 1.5 sec (vacuum sampling)
Fuel Compatibility	Gasoline, Diesel, CNG, Alternative Fuels
Pressure Options	Vacuum or Atmospheric Sample Cell
Cell Path Length	5.1 m
Cell Volume	200 mL
Sample Cell Temperature	191°C
Detector Temperature	-200°C
Integration	Automation system communication interface
Applications	Emissions R&D, Catalyst Development, Alternative Fuels, Pre-Certification Testing