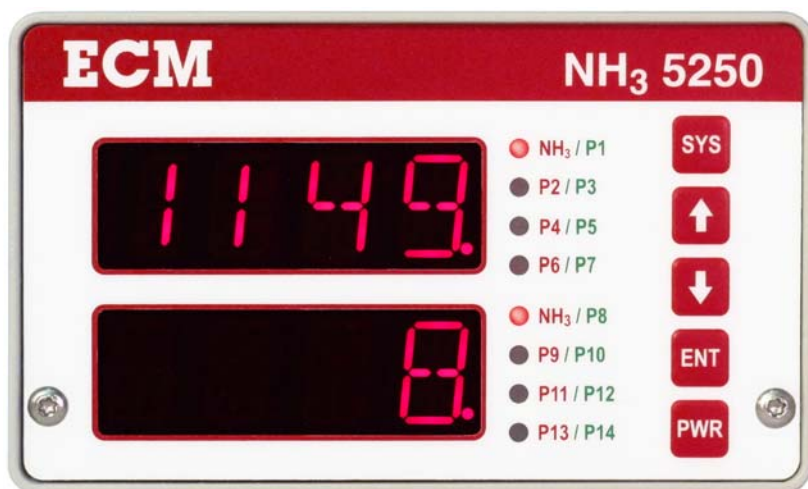


**ECM** NH<sub>3</sub> 5250

# NH<sub>3</sub> Analyzer

Fast measurement of NH<sub>3</sub> (Ammonia)  
In Diesel and Lean-Burn Aftertreatment Systems

For  
Laboratory  
and  
In-Vehicle  
Use



→ Analog Out

↔ CAN

↔ USB

↔ RS232

Actual Size

Single/Dual Channel • Compact • Highly Integratable



Uses Direct-Insertion Ceramic Sensor



ECM's NH<sub>3</sub> 5250 is a versatile and rugged NH<sub>3</sub> analyzer for the development of diesel and lean-burn engine SCR (selective catalytic reduction) systems. NH<sub>3</sub> is measured using a ceramic sensor that is mounted in the exhaust of the engine. Ease-of-use, speed, compactness, and robustness are hallmarks of this technology. No sample lines or pumps are required, simplifying installation and giving fast response. Distances of up to 100 meters between the sensor and analyzer are possible with no loss in response time or accuracy. NH<sub>3</sub> sensors have their calibration stored in a memory chip in the sensor's connector. Calibration can be performed by the user (Zero, Span) and is written into the same memory chip. This allows sensors to be calibrated in a central location and distributed to users, ensuring consistent results throughout a large test facility.

The NH<sub>3</sub> 5250 can be used with all fuel types. All sensor parameters including sensor voltages, cell resistance, and heater voltage are available for display and output. A second NH<sub>3</sub> channel can be added and displayed/output. For improved accuracy under pressure, a pressure compensation kit is available.

The NH<sub>3</sub> 5250 is remarkably compact and is suited for both dynamometer and in-vehicle applications. With six analog outputs, CAN, USB, and RS232 communication, the NH<sub>3</sub> 5250 can be integrated into any data acquisition system. To simplify in-vehicle use, the NH<sub>3</sub> 5250 can be turned on and off with a signal from the vehicle's ignition switch. This feature along with the analyzer's CAN communication capability makes it possible to use the NH<sub>3</sub> 5250 in the loop of a real-time emissions control strategy.

The control of urea injection in SCR systems is difficult. Not enough urea and NO<sub>x</sub> emissions rise. Too much urea and NH<sub>3</sub> emissions and urea use rise. Urea injection control during transient operation is especially difficult and requires fast NH<sub>3</sub> instrumentation. The NH<sub>3</sub> 5250 makes this difficult measurement with ease and is a necessary tool for the development of modern SCR systems.

## Specifications

<b>Ranges</b>	<b>NH<sub>3</sub></b> 0 to 2000 ppm (for $\lambda > 1$ )
	<b>Pressure</b> 0 to 517 KPa (0 to 75 psia)
<b>Accuracies</b>	<b>NH<sub>3</sub></b> $\pm 5$ ppm (0 to 200 ppm)
	<b>Pressure</b> $\pm 5.2$ KPa ( $\pm 0.75$ psia)
<b>Response Time</b>	Less than 1 s.
<b>Analog Outputs</b>	6 channels, 0 to 5V linearized and programmable
<b>CAN</b>	Programmable communication protocol
<b>USB, RS232</b>	Data transfer and control
<b>Power</b>	11 to 28 VDC, AC/DC (optional)
<b>NH<sub>3</sub> Sensor Thread</b>	18mm x 1.5mm
<b>Size and Cable</b>	105mm (W) x 64mm (H) x 165mm (D), 4m cable (std), up to 100m (optional)
<b>Operating Temp.</b>	Electronics: -40 to +85°C
	Sensor: 450°C (maximum gas temperature for use)
	700°C (maximum gas temperature without possibility of sensor damage)
<b>Options</b>	Second NH <sub>3</sub> channel, Pressure Compensation Kit, Rackmount Kit (holds up to 4 analyzers/8 channels), NH <sub>3</sub> sensor simulator, Extension Cables, AC/DC Power Supply