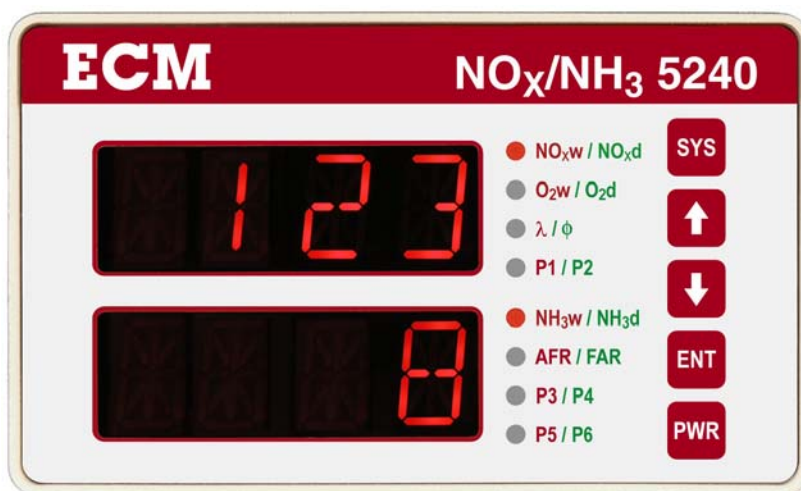


ECM NO_x/NH₃ 5240

NO_x and NH₃ Analyzer

Fast Measurements of NO_x, NH₃, O₂, Lambda, AFR, and ϕ

For Engine-Out
and Tailpipe
Measurement
Applications



→ Analog Out

↔ CAN

↔ USB

Actual Size

For Spark Ignition and Diesel Engines



Uses Direct-Insertion Ceramic Sensors



ECM's NO_x/NH₃ 5240 Analyzer is a remarkable instrument that combines the measurement of NO_x, NH₃, O₂, and Lambda into a single, compact package. Unlike all other ceramic NO_x sensor systems, the Model 5240 eliminates the cross-interference of NH₃ in the NO_x measurement and hence provides separate NO_x and NH₃ readings. By doing this, diesel engine SCR systems can be properly developed and tested since you now know whether an increased signal output is due to NO_x (i.e. urea dosing too low) or NH₃ (i.e. urea dosing too high). Distances of up to 100 meters between the sensors and the analyzer are possible with no degradation in response time. The sensors have their calibration stored in a memory chip in the sensors' connectors. Calibration can be performed by the user (Zero, Span) and is written into the memory chip. This allows sensors to be recalibrated in a central location (or by ECM) and distributed to users, ensuring consistent results throughout a large test facility.

The NO_x/NH₃ 5240 is programmable for all fuel types (specified by fuel H:C, O:C, N:C ratios, or H₂). NO_x, NH₃, O₂, Lambda (λ), AFR, Equivalence Ratio (Φ), and all sensor parameters including pumping currents, cell resistance, and sensor age factor are available for display and output. For improved accuracy with high exhaust pressures, a pressure compensation kit is available.

The NO_x/NH₃ 5240 is compact, yet easy to read, making it suitable for both dynamometer and in-vehicle applications. With six analog outputs, CAN, and USB communication, the NO_x/NH₃ 5240 can be integrated into any data acquisition system. To simplify in-vehicle use, the NO_x/NH₃ 5240 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 integrate the NO_x/NH₃ 5240 into the loop of a real-time emissions control strategy.

Exhaust NO_x, NH₃, and O₂ concentrations are of paramount importance to engine and aftertreatment developers and legislators. The NO_x/NH₃ 5240 makes these difficult measurements with ease and is an indispensable tool for the development of modern engine systems.

Specifications

Ranges	NO _x 0 to 5000 ppm, NH ₃ 0 to 1000 ppm O ₂ 0 to 25%, λ 0.4 to 25, AFR 6 to 364, Φ 0.04 to 2.5
Accuracies	NO _x \pm 5 ppm (0 to 1000 ppm), \pm 1% (elsewhere) NH ₃ \pm 5 ppm (0 to 1000 ppm), \pm 1% (elsewhere) %O ₂ \pm 0.2 (absolute) λ , AFR, Φ \pm 0.8% (at stoichiometric), \pm 1.8 (average, elsewhere) Pressure \pm 5.2 kPa (\pm 0.75 psia)
Response Times	Less than 1 s (NO _x , NH ₃). Less than 150 ms (O ₂ , λ , AFR, Φ)
Fuels Supported	Programmable H:C, O:C, N:C ratios, and H ₂
Analog Outputs	6 channels, 0 to 5V linearized and programmable for NO _x , NH ₃ , O ₂ , λ , AFR, Φ , etc.
CAN	Programmable communication protocol
USB	Data transfer
Power	11 to 28 VDC, AC/DC (optional)
Sensors	18mm x 1.5mm thread
Size and Cable	105mm (W) x 64mm (H) x 165mm (D), 4m cable (std), up to 100m (optional)
Operating Temp.	-40 to +85°C electronics, 950°C (maximum continuous) sensors
Options	Pressure Compensation Kit, Rackmount Kit (holds up to 4 analyzers/8 channels), NO _x /NH ₃ Sensor Simulator, Extension Cables, AC/DC Power Supply