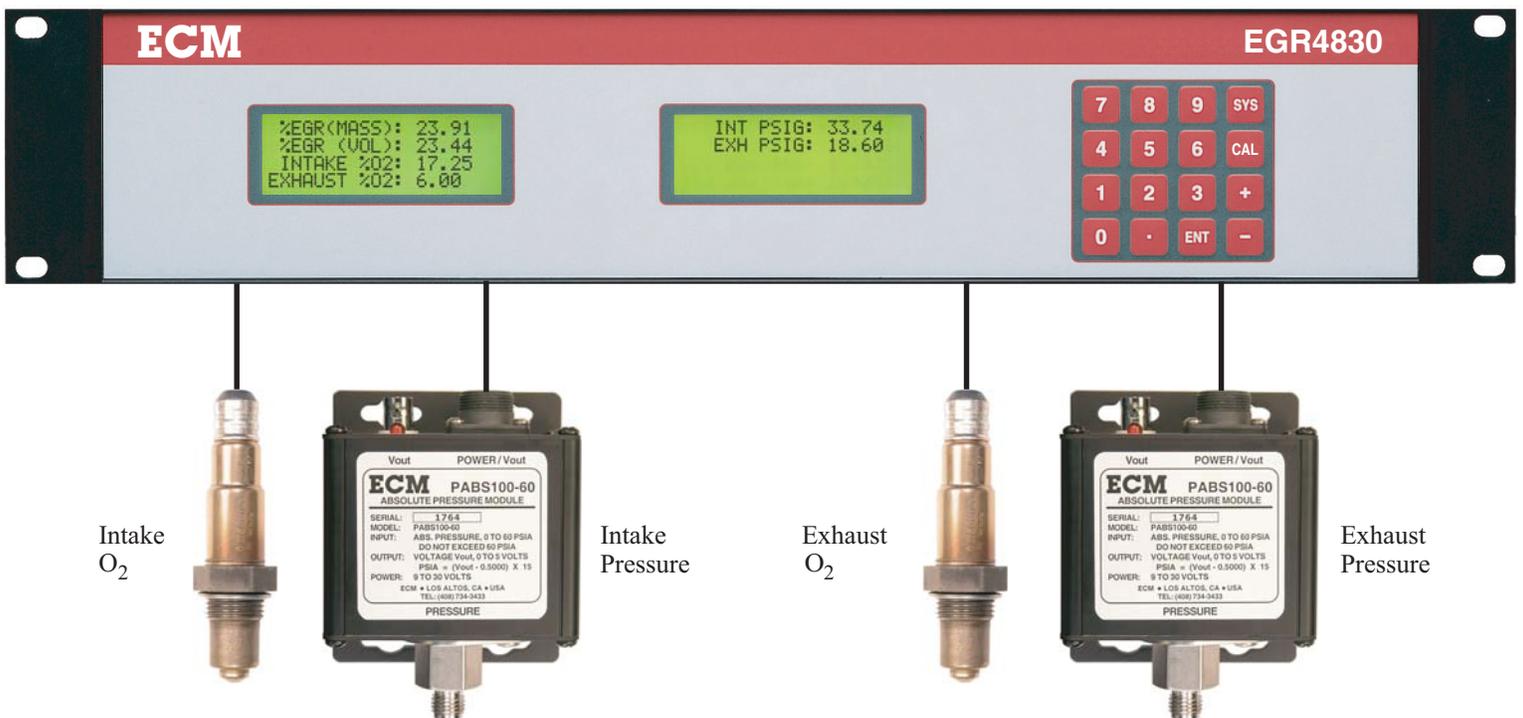


# ECM EGR4830

## Exhaust Gas Recirculation (EGR), Lambda, AFR, and O<sub>2</sub> Analyzer

The EGR Model 4830 Analyzer makes the measurement of %EGR, Lambda, AFR, and %O<sub>2</sub> in engines remarkably easy.

- %EGR (gravimetric) • %EGR (volumetric) • Lambda • AFR
- %O<sub>2</sub> (intake) • %O<sub>2</sub> (exh) • Pressure (intake) • Pressure (exh)



- Easy to set up
- Simple to calibrate
- Fast response

No engine research, development, or testing should be performed without one.

Exhaust gas recirculation (EGR) is a powerful control used to suppress NOx emissions in engines. As important as EGR is to the operation of engines, in the past there has been no simple way to measure it. Now there is with ECM's EGR 4830 Analyzer.

The EGR 4830 determines the %EGR by measuring the O<sub>2</sub>, oxidizable concentrations, and pressures directly in the intake and exhaust of the engine under test. Because there are no pumps drawing intake and exhaust samples from the engine, the instrument is non-intrusive and has response times of less than one second.

The EGR 4830 can display both gravimetric and volumetric %EGR as well as Lambda, AFR (air-fuel ratio), intake %O<sub>2</sub>, exhaust %O<sub>2</sub>, intake pressure, and exhaust pressure. The analyzer can also function as a dual-channel, pressure compensated Lambda (AFR) meter if the intake sensors are relocated to an exhaust!

Set-up of the EGR 4830 is easy: Mount the ceramic O<sub>2</sub> sensors in the intake and exhaust of the engine using 18mm x 1.5mm bosses and route pressure taps from the intake and exhaust to the EGR 4830's pressure modules.

Calibration of the EGR 4830 is simple: Expose the O<sub>2</sub> and pressure sensors to air and press a button on the instrument's front panel.

The EGR 4830 is fast: This means the analyzer can be used to develop dynamic EGR algorithms. More can be done and tried in less time. There is also a dramatic reduction in maintenance in comparison to other systems. The displays can be operated in four-line or large-character mode to view the measured parameters. The EGR 4830 has four programmable, 0 to 5 volt outputs that can be assigned and scaled to any parameter.

EGR and Lambda (AFR) are the two most important parameters influencing the emissions, fuel economy, and drivability of engines. Measure these parameters quickly and easily with the EGR 4830.

## Specifications

<b>Ranges</b>	<b>%EGR</b> 0 to 100%
	<b>Lambda</b> 0.58 to 25
	<b>AFR</b> 8.5 to 364
	<b>%O<sub>2</sub></b> 0 to 25%
	<b>Pressure</b> 0 to 518 kPa (75 psia)
<b>Accuracies</b>	<b>%EGR</b> ±0.5% (absolute)
	<b>Lambda, AFR</b> ±1% (of reading)
	<b>%O<sub>2</sub></b> ±0.2% (absolute)
	<b>Pressure</b> ±5.2 kPa (±0.75 psia, absolute)
<b>Response Times</b>	<b>%EGR</b> less than 1 second (programmable)
	<b>Lambda, AFR, %O<sub>2</sub></b> less than 150 ms
	<b>Pressure</b> less than 150 ms
<b>Fuel Types</b>	Programmable H:C, O:C, and N:C ratios (required for gravimetric %EGR)
<b>Analog Outputs</b>	4 channels, 0 to 5V programmable for parameter, range, and response time
<b>Size, Cables, Power</b>	19" x 3.5" x 14" (483mm x 89mm x 356mm), 30' (10m) cables to sensors, 100 to 250 VAC

**ECM** ENGINE CONTROL  
AND MONITORING

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