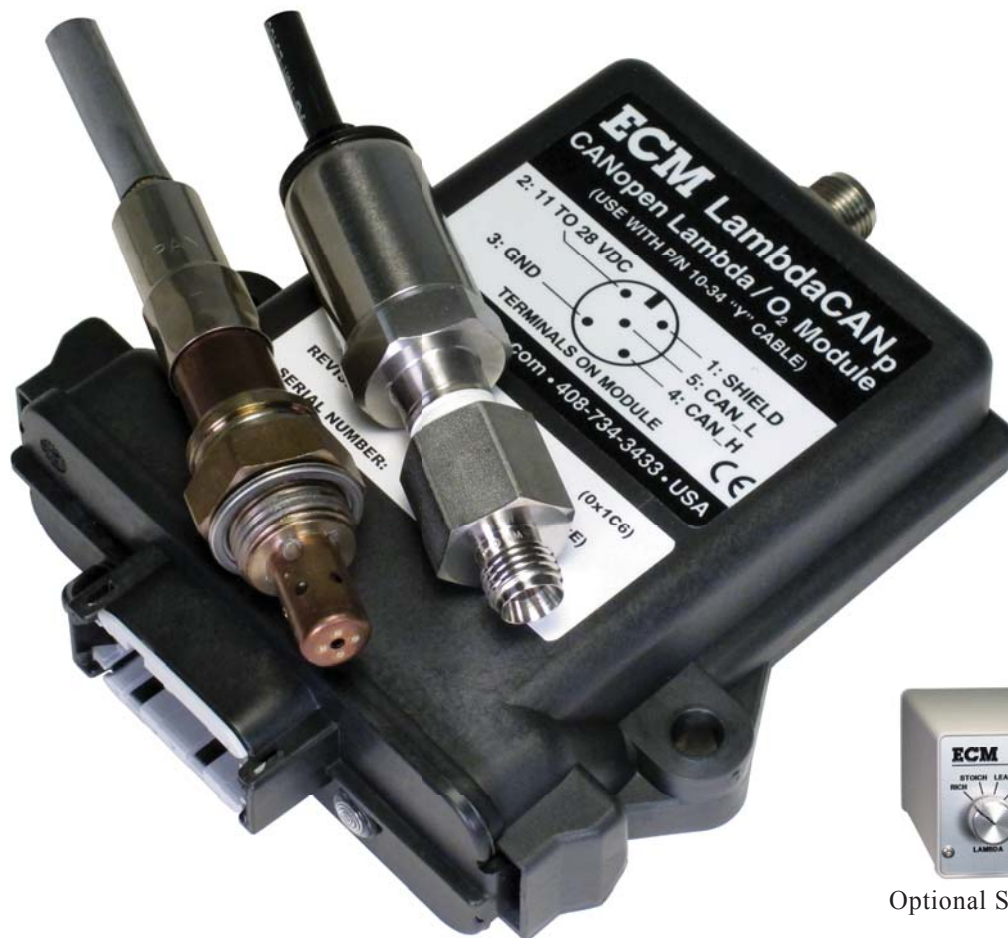


ECM LambdaCANp λ /AFR/ O_2 Module with Pressure Compensation



Optional Sensor Simulator

- Wide Measurement Range
- Fast Response
- All Fuels Programmable
- CAN Communication
- Can be Field Recalibrated
- Optional Pressure Compensation
- Optional Display Heads
- Environmentally Sealed

ECM's LambdaCANp Module is a powerful, "next-generation" wideband lambda (and AFR, O_2) measurement module with CAN interface. In addition to providing outstanding measurement range and accuracy, LambdaCANp addresses the two principle sources of error with wideband sensor use: sensor aging and pressure sensitivity. All lambda and pressure sensors supplied are factory-calibrated and this calibration is stored in a memory chip in the sensors' connectors. For best accuracy over the life of the lambda sensor, calibration can be quickly performed using ambient air. This recalibration is stored in the memory chip and stays with the sensor. Sensors can be tested and recalibrated in a central location and distributed to users, ensuring consistent results throughout a large test facility. Pressure compensation (P-COMP™) improves accuracy at non-stoichiometric (i.e. $\lambda \neq 1$) and non-atmospheric (i.e. $P \neq 101$ kPa) conditions. For example, a pressure increase of only 34 kPa will cause an error of 0.58λ at $\lambda = 3$. Pressure compensation eliminates this error and enables innovative applications such as $\%O_2$ measurements in intake manifolds. Pressure data is available on the CAN bus.

LambdaCANp will work with all NTK and Bosch-type wideband sensors. It is programmable for all fuel types (H:C, O:C, N:C ratios and H_2). LambdaCANp outputs λ , AFR, $\%O_2$, pressure, and all sensor parameters including pumping current, resistance, and sensor age factor.

Specifications

Inputs	1 Wideband Lambda Sensor, 1 Pressure Sensor (optional)
Ranges	λ (Lambda) 0.40 to 25, AFR 6.0 to 364, %O₂ 0 to 25 Pressure 0 to 517 kPa (0 to 75 psia)
Accuracies	λ, AFR, ϕ $\pm 0.6\%$ (at stoichiometric), $\pm 0.9\%$ (average, elsewhere) %O₂ $\pm 0.1\%$ (absolute) Pressure ± 0.7 kPa (± 0.10 psia)
Response Time	Less than 150 ms
Fuel Type	Programmable H:C, O:C, N:C ratios, and H ₂
CAN	High Speed according to ISO 11898
Configuration	Via CAN Bus with Configuration Software. Programmable Node ID.
Module	145mm x 120mm x 40mm, Environmentally Sealed
Environmental	-55 to +125°C, IP67
Sensor Cable	+1m (standard), +2m (optional), +3m (optional)
Power	8 to 28 VDC, AC/DC (optional)
Sensor Mounting	18mm x 1.5mm (wideband), 1/4" NPT (pressure)

Ordering Information

LCANp-N6	LambdaCANp with NTK 6mA UEGO Sensor, Add “/P” for optional Pressure Compensation
LCANp-B2	LambdaCANp with Bosch LSU4.2 Sensor, Add “/P” for optional Pressure Compensation
LCANp-B9	LambdaCANp with Bosch LSU4.9 Sensor, Add “/P” for optional Pressure Compensation

Note: Any LambdaCANp module can be used with any sensor. All modules are identical.
The wideband sensor's memory chip will tell the module what sensor is attached.

10-02	1m lambda sensor extension cable
10-03	2m lambda sensor extension cable
10-37	3m lambda sensor extension cable
10-35	1m pressure sensor extension cable
10-36	2m pressure sensor extension cable
10-38	3m pressure sensor extension cable
01-04	Two-Channel Programmable Display Head (dashCAN)
01-05	Two-Channel Programmable Display Head with Analog Outputs (dashCAN+)
04-01	AC/DC Supply supporting two Modules and one Display Head
SIM700	Lambda and Pressure Sensor Simulator for System Checkout

ECM ENGINE CONTROL
AND MONITORING

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Techniques protected under patents issued and pending

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