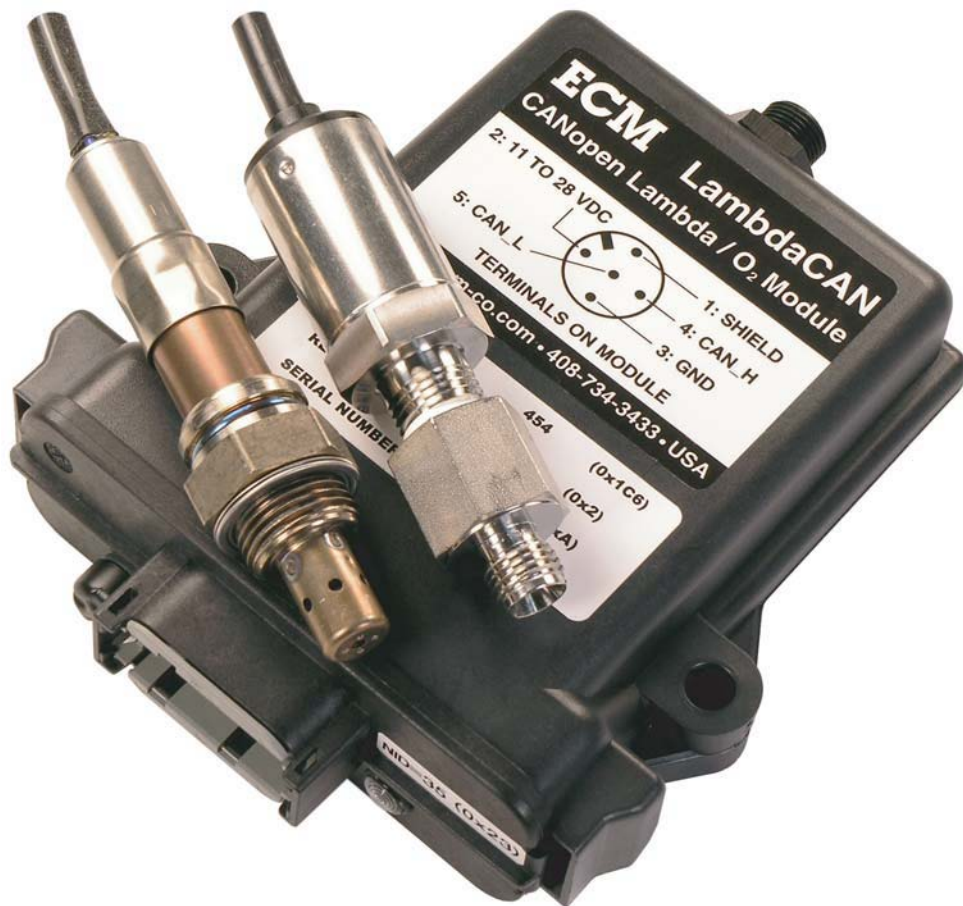


# LABCELL LTD

## ENGINE TEST INSTRUMENTATION

### **ECM** LambdaCAN $\lambda$ / AFR / O<sub>2</sub> Module with Pressure Compensation



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

ECM's LambdaCAN Module is a powerful, "next-generation" wideband Lambda (and AFR, O<sub>2</sub>) measurement module with a CAN interface. In addition to providing outstanding measurement range and accuracy, Lambda CAN addresses the two principle sources of error with wideband sensor use: sensor aging and pressure sensitivity. All wideband sensors supplied are factory-calibrated and this calibration is stored in a memory chip in the sensor's connector. For best accuracy over the life of the 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 0.58  $\lambda$  at  $\lambda = 3$ . Pressure compensation eliminates this error and enables innovative applications such as %O<sub>2</sub> measurements in intake manifolds. Pressure data is available on the CAN bus.

LambdaCAN 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<sub>2</sub>). LambdaCAN outputs  $\lambda$ , AFR, %O<sub>2</sub>, pressure, and all sensor parameters including pumping current, resistance, and sensor age factor.

## Specifications

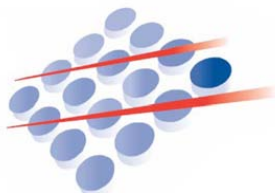
<b>Inputs</b>	1 Wideband Lambda Sensor, 1 Pressure Sensor (optional)
<b>Ranges</b>	$\lambda$ (Lambda) 0.40 to 25, <b>AFR</b> 6.0 to 364, <b>%O<sub>2</sub></b> 0 to 25 <b>Pressure</b> 0 to 517 kPa, 0 to 75 psia
<b>Accuracies</b>	$\lambda$ $\pm$ 0.005 (at 1 $\lambda$ ), $\pm$ 0.008 (at 0.8 to 1.2 $\lambda$ ), $\pm$ 0.009 (elsewhere) <b>AFR</b> $\pm$ 0.1 (at 14.6 AFR), $\pm$ 0.2 (at 12 to 18 AFR), $\pm$ 0.5 (elsewhere) <b>%O<sub>2</sub></b> $\pm$ 0.2 (0 to 2% O <sub>2</sub> ), $\pm$ 0.4 (elsewhere) <b>Pressure</b> $\pm$ 5.2 kPa, $\pm$ 0.75 psia
<b>Response Time</b>	Less than 150 ms
<b>Fuel Type</b>	Programmable H:C, O:C, N:C ratios, and H <sub>2</sub>
<b>CAN</b>	High Speed according to ISO 11898
<b>Configuration</b>	Via CAN Bus with Configuration Software. Programmable Node ID.
<b>Module</b>	145mm x 120mm x 40mm, Environmentally Sealed
<b>Environmental</b>	-55 to +125°C, IP67
<b>Sensor Cable</b>	+1m (standard), +2m (optional)
<b>Power</b>	11 to 28 VDC, AC/DC (optional)
<b>Sensor Mounting</b>	18mm x 1.5mm (wideband), 1/4" NPT (pressure)

## Ordering Information

<b>LCAN-N6</b>	LambdaCAN with NTK 6mA UEGO Sensor, Add "/P" for optional Pressure Compensation
<b>LCAN-B2</b>	LambdaCAN with Bosch LSU4.2 Sensor, Add "/P" for optional Pressure Compensation
<b>LCAN-B9</b>	LambdaCAN with Bosch LSU4.9 Sensor, Add "/P" for optional Pressure Compensation

Note: Any LambdaCAN 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.

<b>10-02</b>	1m wideband sensor extension cable
<b>10-03</b>	2m wideband sensor extension cable
<b>10-04</b>	1m pressure sensor extension cable
<b>10-05</b>	2m pressure sensor extension cable
<b>01-02</b>	Optional One/Two-Channel Programmable Display Head with Analog Outputs
<b>12-01</b>	Optional Rackmount Panel for up to four Display Heads (3.5", 89mm)
<b>04-01</b>	Optional AC/DC Supply supporting two Modules and one Display Head



**LABCELL LTD**  
FOUR MARKS, ALTON, HAMPSHIRE GU34 5PZ  
TEL: ++44 (0)1420 568150 FAX: ++44 (0)1420 568151  
e: mail@labcell.com www.labcell.com

