

# AML-140

## Oxygen sensor interface

### Description

The Lambda Box (AML-140) is a compact and lightweight conditioning unit for 4 linear oxygen sensors of the UEGO type and 2 K-type thermocouples designed to measure engine air to fuel ratio and exhaust gas temperature.

It's compatible both with NGK UEGO sensor and with Bosch UEGO sensor (tuning necessary).

The compact dimensions allow easy installation not only on the dyno but also on the tight space available on a vehicle.

A smart management of sensor heaters reduces significantly current consumption and avoids use of larger batteries.

The air to fuel and temperature data may be transmitted to Marelli ECUs by means of a CAN 2.0 communication line (contact factory for additional information).



### Main Features

- Compact dimensions
- External lambda heater enable available

### Benefits

- Compatible both with NGK UEGO sensor and with Bosch UEGO sensor (tuning necessary)
- On car measures possible
- Possible comparison between dyno and car
- 4 channels allow measure of individual (cylinder per cylinder) lambda values, and the average on tail pipe
- Engine cylinder bank selection is available

### Typical Applications

All race bikes/cars

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## Technical Characteristics

### Inputs

Linear Lambda sensor (@ 12 bit resolution) (*)	4
Digital (engine bank selection)	1
Differential (@ 12 bit resolution)	2
NTC internal temperature sensor	1
“Code Load” enable pin	1
Lambda heater enable	1

(\*) Compatible both with NGK UEGO sensor and with Bosch UEGO sensor (tuning necessary)

### Outputs

Lambda heater drivers	4
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### Communications

CAN line (1 Mbit/s (**))	1
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(\*\*) Configurable on request

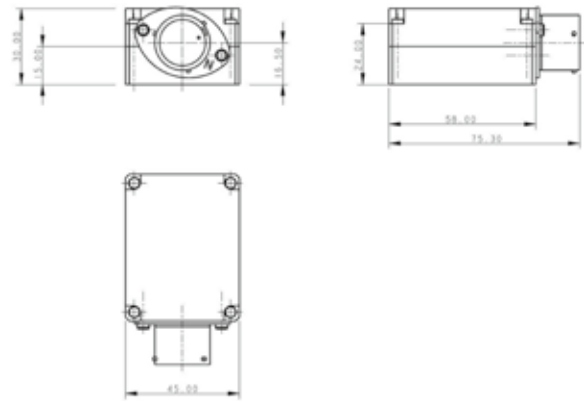
### Logic Core

Microcontroller (132 MHz)	1
Flash (microcontroller)	1.5 Mb
RAM memory (microcontroller)	64 Kb

### Other Characteristics

Power supply	8 to 18 V
Operating temperature	- 20 to 85 °C
Electrical consumption without load (typ.)	200 mA
Electrical consumption without load (max.)	350 mA
Electrical consumption each lambda heater (max.)	3 A
Protection class	IP 64
Dimensions	
without connectors	45 x 58 x 30 mm
Weight	130 g

## Dimensions



Dimensions in millimetres

## Application Schematics

