



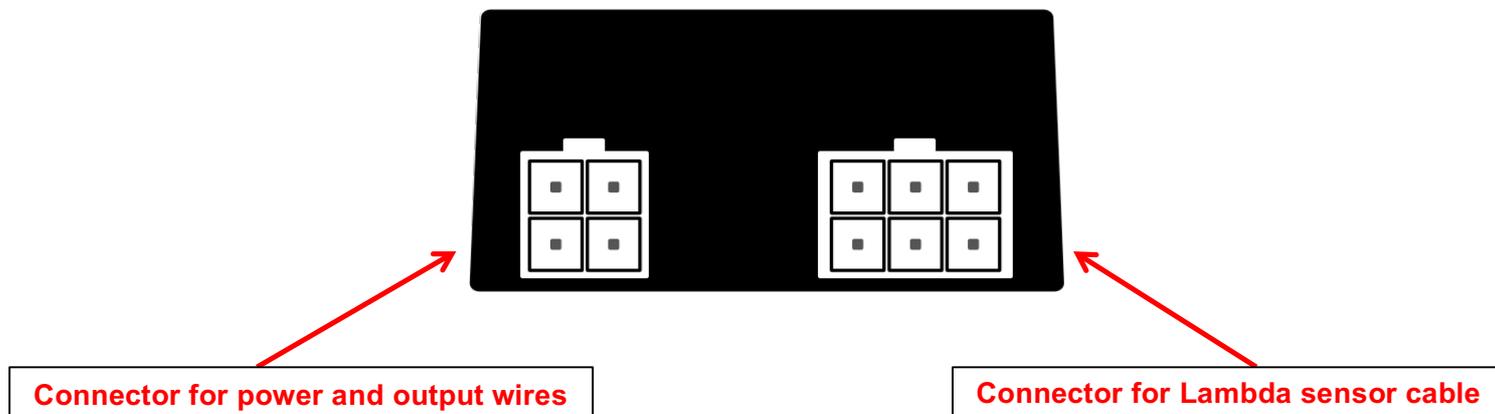
## ***INSTALLATION MANUAL***

# ***WIDEBAND AFR (AIR FUEL RATIO) CONTROLLER***

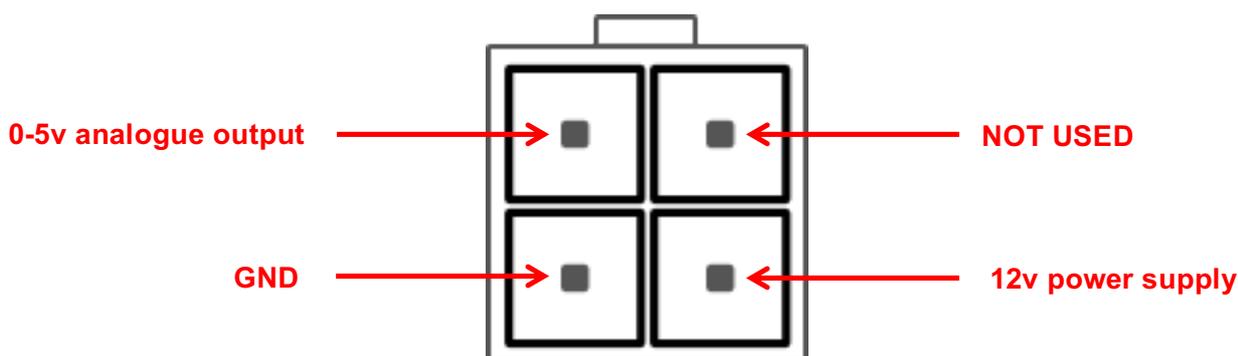


## Quick setup

1. Connect Bosch oxygen sensor
2. Connect 12V to ignition on power and GND to chassis
3. Connect analogue output signal to Zada Tech gauges, your aftermarket ECU or gauges



## Pinout



## Features

- No calibration required
- 7.35 AFR to 22.39 measurement range
- Accuracy <0.1 AFR
- Simple to install and operate
- 0-5V analogue output

## 0-5V Output

The analogue 0-5V output corresponds to the 7.35AFR to 22.39AFR. To convert from voltage to AFR use the formula:  $V * 15.04 / 5 + 7.35$ . The output is compatible with many Wideband AFR displays as well as Zada Tech gauges.

*During the initial heat-up phase of the sensor, the output will toggle between 10 AFR to 20AFR. This is done to verify the accuracy of the signal and gauge.*



## **Smart Oxygen Sensor Warmup Function**

Since most of our wideband AFR kits are installed permanently on the vehicles, the Smart Oxygen Warmup Function is activated by us before shipment.

The Smart Oxygen Warmup Function, prolongs the life of the oxygen sensor by avoiding rapid heat up during the initial water-condensation phase.

Many wideband oxygen sensors fail prematurely due to the fact that rarely aftermarket Air Fuel Ratio controller manufacturers pay attention to the sensor warmup procedure when the engine is cold. What usually happens is condensed water from the exhaust hits the hot sensor and the shock damages the sensing element.

To prevent this issue the Smart Warmup process monitors the sensor temperature and applies full sensor warmup only after the exhaust is heated sufficiently by the engine. This means that when exhaust is cold the sensor will become fully operational in 2-7minutes after engine is started.

This feature is used by all OEM car manufacturers but neglected by the aftermarket.