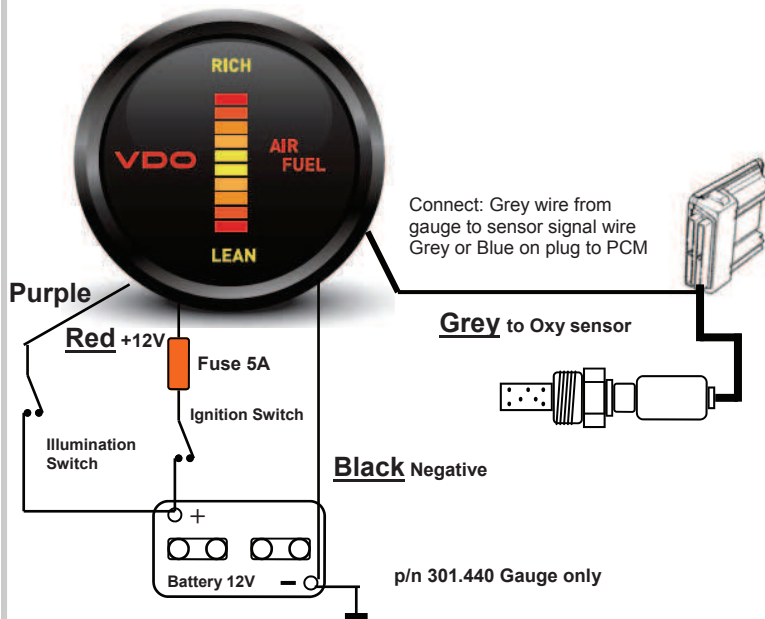


# Digital Air/Fuel Ratio Gauge

P/n 301.440



## Oxygen Sensor Wide Band 0 - 5V

There are four different type of oxygen sensors with 1, 2, 3 or 4 wires connector.

The 3 and 4 wire sensors have inbuilt a heating element.

The VDO Oxygen sensor has Grey (or Blue) signal wire on a four terminals connector.

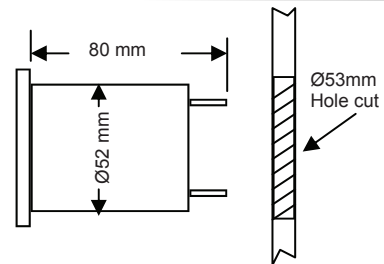
Connect the digital gauge p/n 301.440 Air/Fuel Ratio, Grey wire to the oxygen sensor Grey (or Blue ) wire.

The gauge can be used for Unleaded Petrol, Methanol, Ethanol and Propane.

**Note:** Gauge is designed to operate off a "Wide band" Oxy Sensor 0 - 5V

## Installation

1. Cut a Ø53mm diameter hole and fit gauge.
2. Disconnect battery
3. Connect the **black** wire to a good chassis ground.  
Ensure good ground connection between oxygen sender unit.
4. Connect the **red** wire to a fuse accessory or the ignition switch circuit.
5. Connect the gauge's **grey** wire to grey or blue Oxygen sensor plug to PCM (Powertrain Control Module).
6. Display Dimmer connect the **purple** wire to headlights or parkers 12V to cut the brightness by 50% .
7. Re-connect the battery



### Note:

1. Dimmer: the bargraphs will not dim, only the letters will dim.
2. If the **purple** wire is not connected to the headlights, then it should be earthed (battery neg).

## Air Fuel Ratio Instructions

The air fuel ratio gauge consists of 10 LEDs (light emitting diode) to represent the air to fuel ratio.

When power is applied to the gauge, the word rich will light at the top, of the gauge and the word lean will light at the bottom of the gauge.

The gauge works by monitoring the 0 to 5 Volt signal coming from the oxygen sensor.

The higher the voltage, the richer the condition. The lower the voltage, the leaner the condition.

When the vehicle is running full rich all the LED light bars will be lit.

The lit bars start at the bottom and will progressively light to the top. Each bar represents 0.5 Volt.

2 red, 2 yellow and 1 green represents a stoichiometric condition, (lowest emissions).

0 to 1.5 Volt, (or less), 2 red, 1 yellow represents a lean condition.

This is fine at idle or low cruising speeds.

At full throttle, heavy load condition, the gauge should have most or all of the bars lit. If the vehicle is computer equipped then the gauge will fluctuate up and down, at cruising or idle speeds, this is normal. The computer is constantly adjusting the air/fuel ratio for lowest emissions. The stoichiometric air/fuel ratio is the chemically correct ratio at which all of the oxygen and all of the fuels consumed. This condition is neither rich nor lean. This condition represents lowest emission, however maximum horsepower is developed at a rich condition.

A lean condition under load, is dangerous and could result in severe engine damage.

A faulty oxygen sensor or bad ground could cause the gauge to indicate a lean condition.

All sensors are supposed to operate the same however our tests have shown that some sensors are sluggish compared to others.

A heated sensor is not needed unless you need to get an instantaneous reading when the car is first turned on. It is recommended that you bring the engine up to normal operating temperatures before racing the engine.

By this time the sensor will also be up to operating temperature.

Fouling or permanent damage will occur if using the sensor with leaded or fuel additives containing lead, 2 cycle gasoline (gas + oil mixture), diesel fuel, nitro methane, or excessively rich mixture.