**EGO1****Description:**

The EGO1 is a precision, heated, 4-wire exhaust gas oxygen sensor. It produces an output voltage that varies from 0 V to 1V as the residual oxygen level in the exhaust gas stream ranges from lean to rich. The operation of the sensor is based on a zirconium dioxide cell which provides a precise indication of the stoichiometric air/fuel ratio of 14.7:1. At the stoichiometric point, the EGO1 produces an output voltage of 0.45 V.

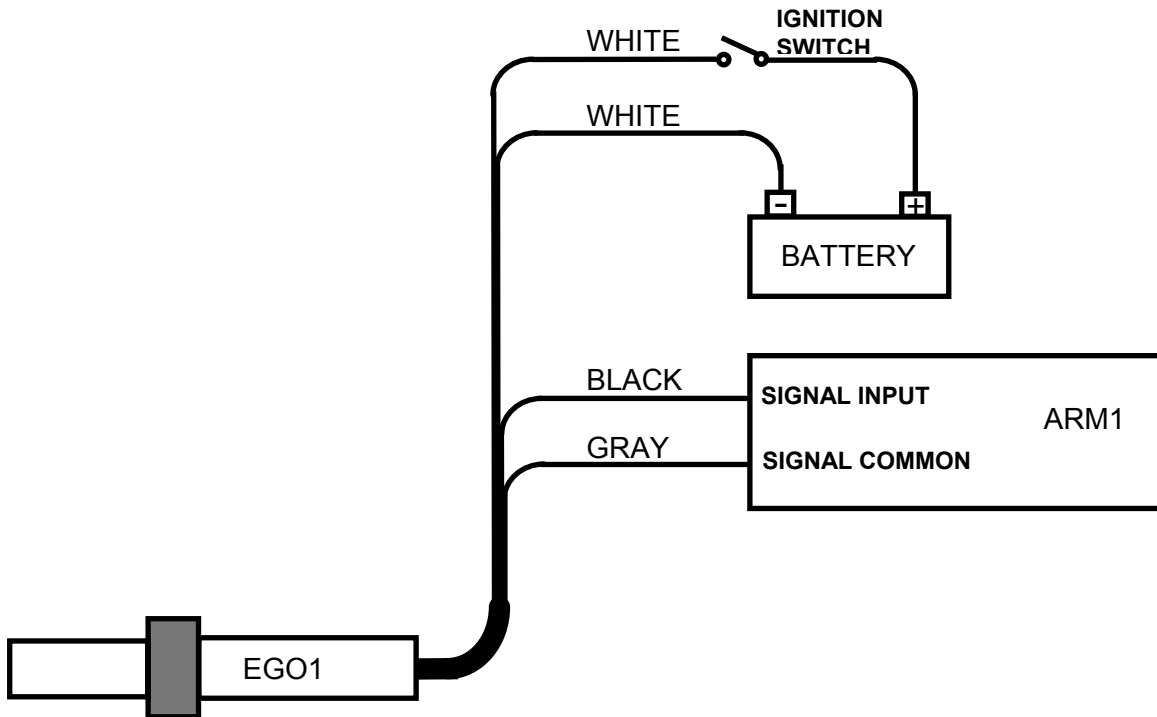
The transfer function of the sensor is less abrupt than other oxygen sensors which makes it possible to make valid readings over a wide range of air/fuel ratio. The output characteristics of the EGO1 are predictable, repeatable and well characterized. Coupled with a precise air/fuel ratio meter such as the Split Second ARM1, the EGO1 generates accurate readings ranging from 17.0:1 to 12.5:1. Tables and graphs showing output voltage vs. air /fuel ratio are contained in this data sheet.

Due to its internal heater and wide operating temperature range, the EGO1 provides valid readings quickly after engine start and over a wide range of engine operating conditions including idle.

Features:

- Generates calibrated outputs for air/fuel ratios ranging from 17.0:1 to 12.5:1
- 0V to 1.0 V output range
- Signal ground lead allows precise output voltage measurements
- Internal heater for stable, predictable readings
- Consistent output over 800°F to 1400°F temperature range

Typical Connections:

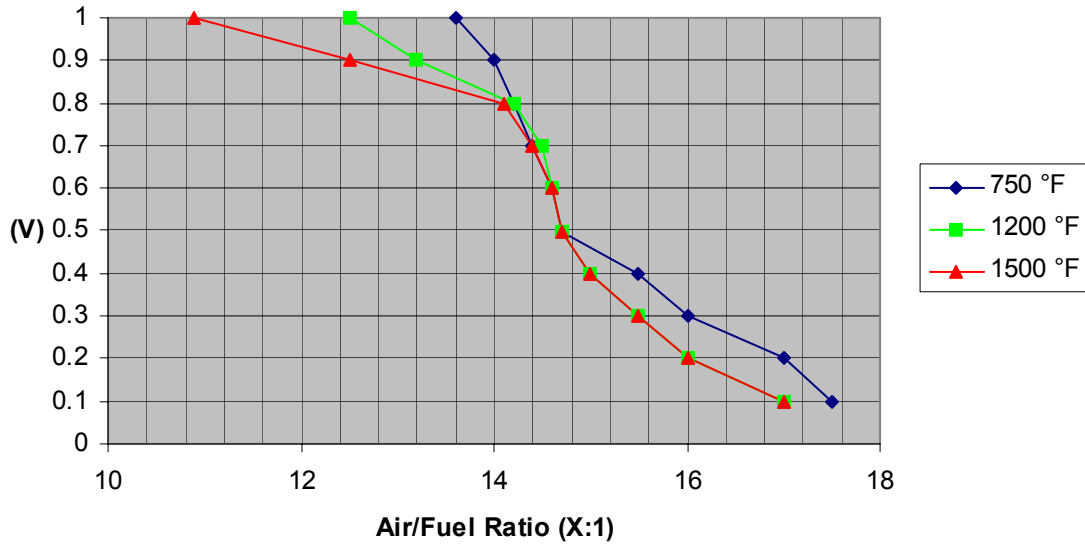


Wire Assignments:

LABEL	DESCRIPTION	WIRE COLOR
SIGO +	Signal output ($0 < \text{SIGO}+ < 1\text{V}$)	Black
SIGO -	Signal common	Gray
Heater	+12V	White*
Heater	Battery negative (chassis ground)	White*

Note: One of the white wires is tied to +12V and the other to chassis ground.
The two white wires are interchangeable.

Output Characteristics:



Typical Display Characteristics with ARM1 Air/fuel Ratio Meter:

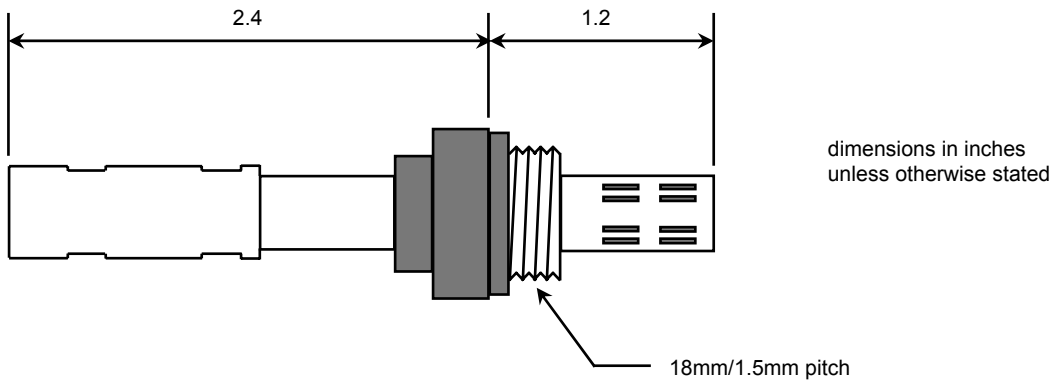
LED	COLOR	MIN (V)	MAX (V)	A/F RATIO *	λ *
1	RED	0	0.1	17.0:1	1.16
2	RED	0.1	0.2	16.0:1	1.09
3	ORANGE	0.2	0.3	15.5:1	1.05
4	ORANGE	0.3	0.4	15.0:1	1.02
5	YELLOW	0.4	0.5	14.7:1	1
6	YELLOW	0.5	0.6	14.6:1	0.99
7	GREEN	0.6	0.7	14.5:1	0.99
8	GREEN	0.7	0.8	14.2:1	0.97
9	BLUE	0.8	0.9	13.2:1	0.90
10	BLUE	0.9	1.0	12.5:1	0.85

* Typical values at 1,200°F. The EGO1 will produce similar readings over a temperature range of 800°F to 1400°F.

Electrical Characteristics:

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage	Signal Out to Signal Common	0		1.0	V
Output Resistance	Cold		>1		MΩ
Output Resistance	Operating Temperature		10		kΩ
Heater Current	Cold		2.4		A
Heater Current	Operating Temperature		0.8		A

Mechanical Characteristics:



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