

**Instructions for OXY6200 Kit**  
oxy6200\_inst\_tc6300lc.doc, 09/03/04  
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The OXY6200 Kit is composed of:

1. OXY6200 Controller
2. 6200A-3b Wiring Harness, 10ft
3. 6200A-2 UEGO Sensor (white label on sensor: "FOR USE WITH OXY6200 ONLY")
4. 2 of 2400A-41, Sensor Shield (installed on sensor)
5. OXY6200\_INST, Instruction Sheet

Formula to calculate %O2 from voltage output (Vout):

$$\%O2 = [(Vout - 1.0) / (Vcal - 1.0)] \times \%O2cal \quad \text{[Equation 1]}$$

where:

Vout is the voltage output (Volts) of the controller

Vcal is the voltage output (Volts) of the controller with the sensor held in air (and on) for twenty minutes. Vcal is unique to each sensor and may change with sensor aging.

%O2cal is the %O2 of the air that the sensor is held in ( = 20.95 minus humidity)

Formula used to correct %O2 for pressure: (for (P-Pcal) from 0 to 3100mmHg)

$$\%O2a = \%O2m / [ 1.000 + 6.459 \times 10^{-4} (P - Pcal) - 1.054 \times 10^{-7} (P - Pcal)^2 ] \quad \text{[Equation 2]}$$

where:

%O2a is the corrected (actual) %O2

%O2m is the measured (using Equation 1) %O2

P is the pressure (mmHg) that the sensing end of the sensor is exposed to during use

Pcal is the pressure (mmHg) that the sensing end of the sensor was exposed to during calibration

Application Notes:

1. The sensor is heated and can ignite a combustible mixture.
2. Connect the harness directly to the power supply. Do not extend the power cable of the harness without contacting ECM.
3. Output specification: 0 – 10V (output approx. 5V when sensor in air at atmospheric pressure.)  
Output impedance: 1kohm.
4. The signal output ground is connected to the power ground of the harness via the controller.
5. If your data acquisition system analog input ground is connected to the ground of the power supply used by the OXY6200, cut the black wire on the power cable of the OXY6200 harness.
6. The most common failure of the system is a cracked sensor. If Vout is greater than 6 volts when the sensor is held in air at atmospheric pressure, then the sensor is likely cracked.
7. If you have any problems or questions, contact Ron Patrick at ECM (408-734-3433) between 10am to 7pm PST.