

Model  
**3190 and 3290**  
Oxygen Transmitter



## Trace & Percent Oxygen Analyzers

### Fuel Cell or Zirconium Oxide Sensors

Good things come in small packages, and Teledyne's 3190 Trace or 3290 Percent Oxygen Analyzer proves it. These microprocessor based units offer high accuracy, easy use, and all the standard features demanded by the end-user in a compact, budget priced design.

Membrane command switches and a large, four digit LED display make setup and operation clear and quick. For the latest technology, Teledyne quality, and an unbeatable value, the 3190 or 3290 provides a pocket-sized solution.

### Field-Configurable Range Options

Depending on the application, these units can be configured to utilize one of Teledyne's patented, Micro-fuel Cell sensors or zirconium oxide sensors, assuring the highest accuracy. With a long expected sensor life, the 3190 or 3290 is as inexpensive to maintain as it is to purchase. Teledyne has even provided a sensor failure alarm, taking the worry and work out of the end-user's hands.

Two ranges are field configurable on Model 3190 at 0 – 10 ppm and 0 – 1000 ppm with a 0 – 25 % calibration range. Optional ranges can be set between 10 ppm and 10,000 ppm.

The 3290 ranges are field configurable between 1 % and 25 % oxygen with 0 – 25 % oxygen calibration. An optional full scale range is available up to 100 %. Auto ranging is standard on both models.

Two programmable failsafe concentration alarms (one high and one low set point) provide the versatility to satisfy nearly any requirement. And because it's a Teledyne product, you can rely on many years of quality service.

### Outputs for Data

A standard 0 – 10 VDC output provides range identification, while the oxygen concentration is output through 4 – 20 mA DC negative ground and 0 – 10 VDC negative ground signals. An optional unidirectional RS-232 serial interface is incorporated to relay information to a host computer for remote monitoring of all functions. Configuration information and analysis results are as close as your personal computer.

### Advantages

- Auto ranging capabilities
- One high and one low alarm set point with corresponding relay contacts
- Sensor failure alarm

### Optional Configurations

- Power requirement: 10 – 36 VDC
- Zirconium oxide sensor

### Applications

- Wave solder reflow ovens
- Glove box manufacturers
- Nitrogen membrane skids
- PSA skids
- Helium recovery systems
- Diving applications
- Clean air systems for medical applications

	<b>3190 Trace</b>	<b>3290 Percent</b>
<b>Ranges:</b>	0 – 10 ppm and 0 – 1000 ppm and (user selectable trace ranges) (user selectable ranges can be set between 10 ppm and 10,000 ppm)	0 – 3 % and 0 – 10 % oxygen (standard ranges) and 0 – 25 % calibration range (nominal) (user selectable percent ranges) (user selectable ranges can be set between 1 % and 25 % O <sub>2</sub> ) an optional 0 – 100 % range is available
<b>Display:</b>	LED	LED
<b>Accuracy:</b>	±2 % of full scale at constant temperature or ±1 ppm in the range 0 – 10 ppm	±2 % of full scale at constant temperature; ±5 % of full scale over operating temperature (once temperature equilibrium is reached; at 3 % and higher user-defined ranges)
<b>Response time:</b>	90 % in less than 45 seconds at 25 °C for fuel cell, faster with a zirconium oxide sensor	90 % in less than 10 seconds at 25 °C
<b>System operating temp:</b>	0 – 50 °C	0 – 50 °C
<b>Signal output:</b>	4 – 20 mA and 0 – 10 VDC negative ground, non-isolated	
<b>Range Identification:</b>	0 – 10 VDC	0 – 10 VDC
<b>Alarm output:</b>	One high alarm relay, adjustable; One low alarm relay, adjustable; One sensor calibration fail relay (all alarms are failsafe)	
<b>System power requirements:</b>	10 – 36 VDC or 100 – 240 VAC; 47 – 440 Hz, user specified	
<b>Dimensions:</b>	Panel mount - 2.81" H x 6" W x 2.87" D (71.4 x 152.4 x 72.9 mm)	
<b>Oxygen sensor:</b>	Class B-2  Optional: - Class A-2C for CO <sub>2</sub> backgrounds - Zirconium oxide	Class E-2  Optional: - Class E-2CO <sub>2</sub> for CO <sub>2</sub> backgrounds - Zirconium oxide



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