

## IN-SITU OXYGEN SENSOR

- **Reliable Zirconia Oxide Sensor**
- **Reliable Ceramic Heater**
- **Automated Calibration**
- **Integral Oxygen Trim Control Logic**
- **Integral Boiler Efficiency Calculation**
- **Does Not Require Instrument Air**

Monitoring Stack oxygen levels minimizes fuel expense and insures safe combustion. Monitoring windbox oxygen provides accurate % FGR feedback for NO<sub>x</sub> control. The key is the installation of an accurate, reliable and simple-to-maintain O<sub>2</sub> analyzer.

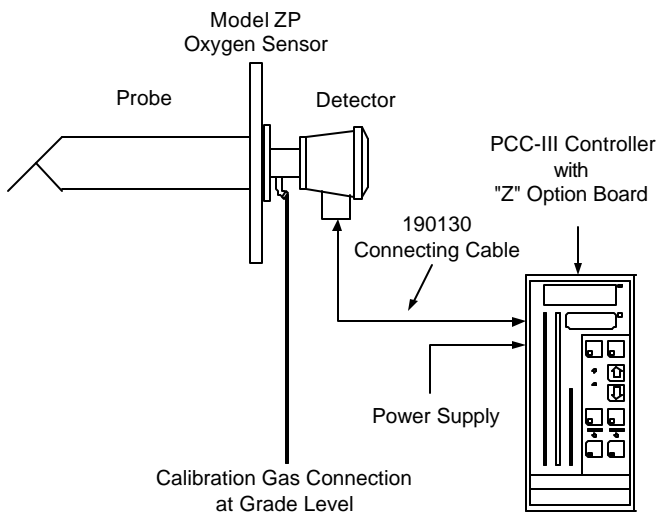
The ZP Oxygen Probe is directly connected to the PCC-III Controller (eliminates a field mounted transmitter), which simplifies installation.

Probe lengths up to 90" are offered, and all types use a zirconia cell of proven reliability.

The standard model is suitable for gas, all grades of oil, and process off-gasses. Optional models are available for coal-fired boilers, incinerators, furnaces, etc.

Quickly installed into the flue stack or furnace, the ZP oxygen analyzer gives you excellent measurement accuracy. Two important maintenance features are that the sample gas filter can be serviced, and the detector can be repaired without ever removing the probe from the stack.

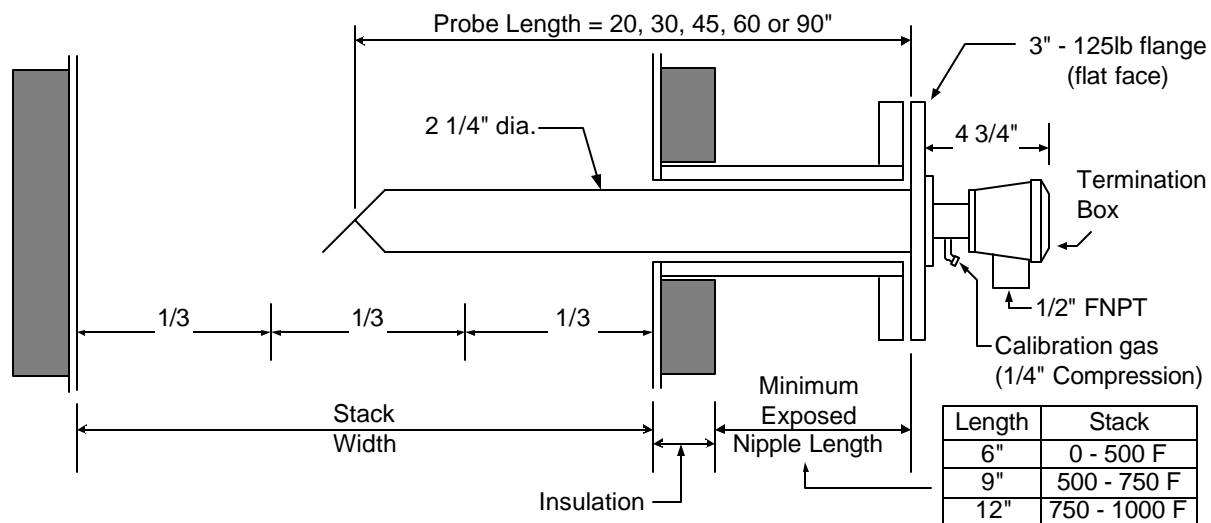
The microprocessor based PCC-III Controller provides digital zirconia cell temperature control, electrical isolation, diagnostics and multiple alarms. Calibration is simple, connect the test gas and press a button. Optional EPA CEM unattended, automated, two point calibration is also available.



Model ZP Oxygen Analyzer Arrangement

### SYSTEM SPECIFICATIONS

<b>Gas Measured</b> .....	Oxygen in flue gases.
<b>Sensing method</b> .....	In-situ field-replaceable zirconia detector, reliable ceramic heater.
<b>Flue Gas Temperature</b>	0 to 1150°F
<b>Measuring range</b> .....	0 to 10% standard, 0 to 21% field configurable.
<b>Accuracy</b> .....	± 1% of reading or 0.1% O <sub>2</sub> (calibration gas dependent)
<b>Response time</b> .....	Initial 0.1 sec. / 90% 7 sec.
<b>Power supply</b> .....	120 Vac, 60 Hz.
<b>Power consumption</b> .....	82VA total (ZP and PCC-III)
<b>Connecting Cable</b> .....	190130. Combined signal and power cable. Up to 500 ft.



Select a Probe Length that positions the probe tip in the middle third of the stack.

### PROBE SPECIFICATIONS

**Application**.....Natural Gas, Fuel Oils  
**Sample gas**.....0 to 1150°F.  
**Flanges**.....ANSI 125 #, 4 bolt,  
 3 inch flange  
**Probe lengths** .....20,30,45,65 or 90 inch  
**Wetted parts**.....304 stainless steel,  
 alumina, quartz,  
 zirconia, platinum.  
**Weight** .....Probe of 20 inch length  
 approx. 18 lb.  
**Life of Zirconia Cell**.....Typical 3-4 years  
 (1 year guarantee).  
**Construction**.....NEMA 12.  
**Options**.....- **190130** Connecting  
 Cable, (requires 1/2"  
 conduit minimum)  
 - **90157** Flame Arrester  
 - **90159** Rain Shield for  
 outdoor installation  
 - EPA CEM Auto  
 Calibration Package

### INDICATING ELECTRONICS SPECIFICATIONS

**Instrument**.....PCC-III Controller.  
 Up to two probes per  
 PCC-III  
**Oxygen Trim Options**...Jackshaft, parallel  
 positioning or fully  
 metered combustion  
 applications  
**Boiler Efficiency**.....Logic included. Optional  
 flue gas temperature T/C  
 required.  
**Oxygen signal**.....4 to 20 MA dc, Linear,  
 Modbus RS485.  
 (Blockware dependent)  
**Ambient** .....32-130°F  
**Case** .....Weather-proof front panel  
**Power supply**.....115 V ac, 60 Hz.  
**Display**.....4.5 Digit LED numeric  
 display, 6 status LEDs

### PCC-III "Z" OPTION BOARD SPECIFICATION

**Isolated Inputs**.....- Probe MV Input  
 - Probe Heater Type R  
 T/C Input  
 - Spare Type J T/C Input  
**Output** .....Fused 120 Vac heater  
 supply

### ORDERING INFORMATION

- 1) Specify Probe Length; ZP-20, 30, 45, 65 or 90 inch
- 2) Specify Special Cable, p/n. 190130 length, maximum length 500 feet
- 3) Specify PCC-III Controller Model Number PCC-III-Z    x        
 (refer to PCC-III Controller Bulletin CS-PCC-III for additional ordering information)
- 4) Specify optional flue gas temperature element (required for boiler efficiency calculation)

CB-O2-1 (6/01)

# PREFERRED INSTRUMENTS

31-35 South Street  
 Danbury, CT 06810 U.S.A.  
 TEL: (203) 743-6741 FAX (203) 798-7313