

Zirconomat

Zirconomat IN-SITU Stack Gas Oxygen Analyzer



ZIRCOMAT STACK GAS OXYGEN ANALYZER

COSA INSTRUMENT CORPORATION, a leader in the supply of analytical instrumentation, presents the ZIRCOMAT Oxygen Analyzer for flue gas oxygen measurement using proven Zirconia oxide sensor technology.

The measurement of excess oxygen to improve energy efficiency has been well documented and is largely responsible for the reduced fuel consumption now common in power plants, refineries and even automobiles.

ZIRCOMAT oxygen analyzers are supplied in four configurations each with unique features to suit a wide variety of combustion control applications.

Most other analyzers take the electronic sensor to the sample gas, this means you need to remove the hot probe every time you service the sample gas filter or sensor. Spare parts inventory for these systems are also probe length specific. Zircomat analyzers are more user friendly! Sample gas is deflected to the sensor and the probe always stays in the stack for increased safety. The small handheld oxygen detector is quickly detachable for service, one detector fits all Zircomat probes, any model any length!

The detector is the heart of all ZIRCOMAT systems. Small and easily detachable, the detector can be serviced without removing the probe from the flue stack. This eliminates the need for a special plant shutdown to remove the probe. A replaceable ceramic sample gas filter on the end of the detector provides sensor protection.



Zircomat Electronic Transmitter



Zircomat Oxygen Detector

The electronic transmitter is mounted in a weather-proof enclosure and receives the signals from the oxygen detector via a connecting cable. This permits remote mounting of the transmitter at a suitable distance from the probe and detector assembly to suit the installation requirements.

The microprocessor-based transmitter has a large L.E.D. display of oxygen concentration and a 4-20 mA isolated output signal proportional to the user selectable adjustable measuring range, 0-2% up to 50% O₂ (adjustable in 0.5% steps). A manual or automatic calibration check can be quickly performed using known value gases to flow a calibration gas through the detector's calibration gas port without removing the detector from the process. Non-volatile memories store the zero and span gas data between calibrations.

On line analytical performance is continuously monitored for seven parameters. Failure of any to meet specifications will activate alarm contact. A liquid crystal menu driven interactive message panel will display any parameters outside the performance envelope. The self-cleaning probe feature is programmed by the user from the keypad and activates a solenoid valve for probe cleaning. The user can also customize the response time to process changes to suit existing combustion control parameters by using the interactive feature.

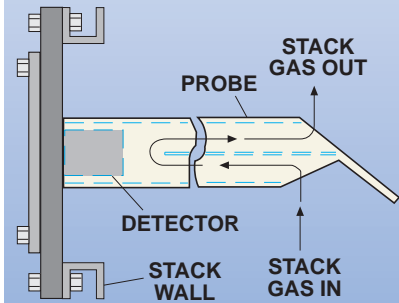
APPLICATIONS

- Boilers
- Incinerators
- Cement Kilns
- Blast Furnaces
- Wind Boxes
- Furnaces
- Diluent Monitor
- Coke Ovens
- Glass Melt Furnaces
- Refinery Process Heaters

PROBE CHOICES:

THE STANDARD ZFK

Designed for oil or gas fired operations with stack gas temperatures up to 1150°F. The probe uses the natural pressure drop created from stack gas passing across the probe tip to deflect the sample gas past the oxygen detector for measurement. The detector detaches from the probe for service without removing the probe from the stack.



ZTB SELF CLEANING

Designed for dirty applications with sample gas temperatures up to 1150°F, this probe uses plant air to clean the detector's sample gas filter automatically at programmable time intervals and is recommended for coal and black liquor fired boilers or incinerator projects with high fly ash. The detector detaches from the probe for service without probe removal.

ZTA HIGH TEMPERATURE

Used for sample gas temperatures up to 2900°F. Available with self-cleaning function, this probe is suitable for waste incinerators, soaking pits, and glass furnace. A built-in heater maintains the sample above the dewpoint during start-up and cools the sample when the gas temperatures rise above its setpoint. The detector detaches for service without probe removal.



ZFK-ST HIGH TEMPERATURE

This probe is manufactured from ceramic and can be used on applications burning oil or gas as a fuel with stack gas temperatures up to 2200°F. The detector detaches from the probe for service without removing the probe from the stack. For special applications, high temperature alloys can also be supplied.



KEY FEATURES:

- *Same detector for all Zircomat probes*
- *Detector detaches, probe stays in place*
- *Automatic calibration*
- *Programmable range selection*
- *Selectable memory hold feature*
- *Hi-Lo and self diagnostic alarms*
- *Interactive message panel*
- *Isolated 4-20 mA output signal*
- *Simple to install and maintain*
- *Extractive sample cell also available for C.E.M. applications*

SPECIFICATIONS:

Sample GasOxygen in Flue Gases
 SensorZirconia Oxide
 Measurement Range0-2%, Up to 50% 0.5% Steps
 Output Signal4-20 mA, Linear Isolated
 CommunicationsRS 485 Optional
 Accuracy±2% of Reading
 Repeatability±0.5%
 Response TimeInitial 0.1 sec./90% 7 sec
 Power Supply115V 60Hz
 Warm Up TimeApproximately 5 Minutes
 Cable20 ft. Sealtite Flexible
 Conduit, Up to 1000 ft. optional

| Probe | Temp | Lengths | Material |
|---------|----------|---------------------------|-----------|
| ZFK,ZTB | 0-1150°F | 12,20,30,40,60,80,100,140 | S/Steel |
| ZTA | 0-2900°F | 20,30,40,60 | S/Carbide |
| ZFK-ST | 0-2200°F | 20,40 | Mullite |

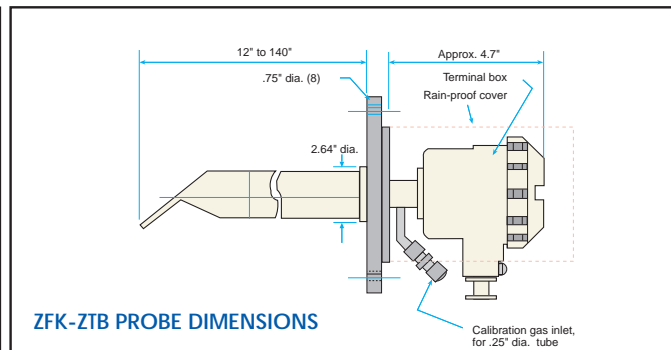
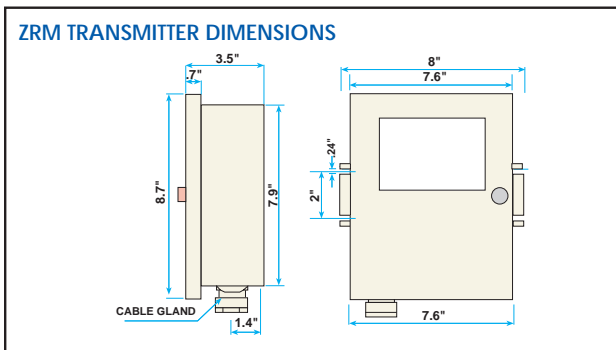
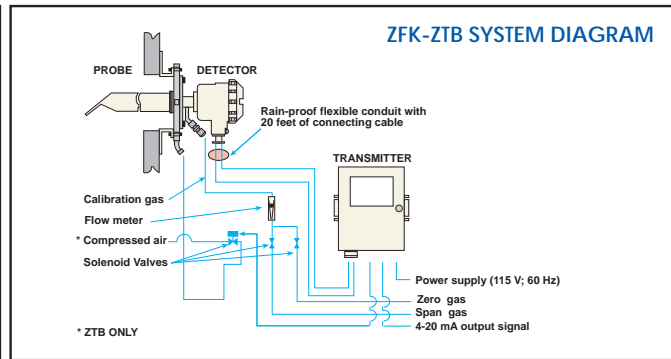
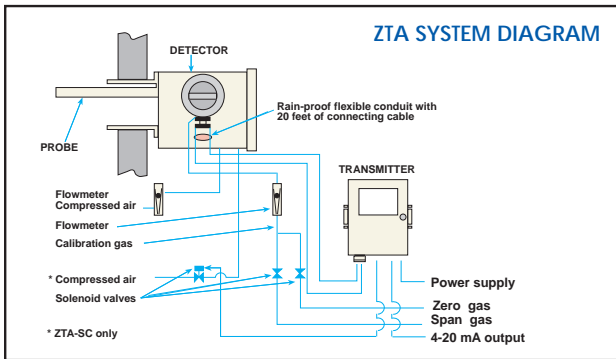
Probe FlangeZTB/ZFK/ZFK-ST4" 150#RF
 ZTA2.5" 150#RF
 Air Requirement.....Self Cleaning Probe: 15 SCFM, 40-120 PSI ZTA
 Probe Sample Loop: 10-20 SCFH

ZTA ProbeLow Temperature Alarm Below 100°C, Volt
 Free 1A 115V Contact Closure

TRANSMITTER:

LED/LCDs ReadoutPercent O₂/Fuel Rich
 Alarm ContactsFailure in Service
 Maintenance
 Blow Down
 High Low AlarmsRated N/O Volt Free 2A 250V
 CalibrationManual or Automatic
 Output Signal HoldSelectable Signal Hold for
 Self-Cleaning or Maintenance
 Contact OutputsRain Resistant
 Contact InputsAutocal Start / Inhibit
 FinishEpoxy Painted Steel/SS
 MountingWall, Panel or 2" Pipe Mount
 Weight8 lbs.
 Ambient Temperature0-130°F
 OptionsCombustion Efficiency,
 RS 485 communication, remote
 calibration unit with solenoids
 and flow meter; Hazardous area
 transmitter available *on request*

SYSTEM ARRANGEMENTS:




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Represented by: