

ZIRCOMAT

Zirconia Oxygen Analyzers

Easy field replacement of zirconia element

Eliminates gas sampling devices

One-person maintenance, even with long probes

- Suitable for oil, gas, coal and other high-ash applications
- Detachable oxygen detector - probe stays in the process.
- One detector fits any probe
- Direct insertion system
- Fast response to changes
- Enhanced safety design with power isolation functions
- Twelve programmable alarm functions including Fuel Rich mode
- High Temperature, Blow-down, Combustion Efficiency and RS-485 Communication options



Controlling excess oxygen in the flue gas to reduce fuel consumption is a well established control tool that's well understood by energy management and process engineers worldwide. Field proven in over 25 years of service, the revolutionary, modular ZIRCOMAT system provides important installation, operation and service benefits when compared to other analyzers of conventional design.

All units feature a special oxygen detector that will mount to any model or length of probe during installation. This unique patented design allows the oxygen detector and sample gas filter to be field serviced by the user without the need for probe removal from the hot gas stream. One person can quickly detach the detector from the probe mounting flange. The detector can be used as a spare for all probe lengths regardless of probe type - drastically reducing space and inventory cost compared to other length and temperature specific designs from other vendors.

Hassle-Free Stack Gas Oxygen Measurement

Installing a ZIRCOMAT Oxygen analyzer is the smart way to measure flue gas oxygen for today's combustion control systems.

In Situ Probes

Select a Sample probe from the five types to suit your combustion fuel type, stack gas temperature range and insertion length.

- **ZFK Probe** - Suitable for oil or gas applications with flue gas temperatures up to 1150°F. Self-cleaning.
- **ZTB Probe** - Specified for fuels with high fly ash - all coal applications up to 1150°F
- **ZFK-ST Probe** - Designed for process heater and other oil or gas applications up to 2200°F. Self-cleaning.
- **ZTB-ST Probe** - the same specifications as the ZFK-ST with the addition of the blow back feature for use with high fly-ash content fuels
- **ZTA Probe** - High temperature applications up to 2900°F

Electronic Transmitter

The ZKM transmitter is a full featured single channel transmitter with menu driven software - keypad interface that includes auto-calibration, twelve programmable alarm functions (including fuel rich mode), programmable air purge (with memory hold) for sample gas filter - the unit is also fully self-diagnostic with LCD message center, event log, password data protection and can be remote mounted in a convenient location up to 1000 feet from the probes.

Full Range of Accessories

- Manual calibration panel with 3-way valve
- Automatic calibration module in weatherproof enclosure
- Blow-down for high ash installations
- Explosion-proof detector & transmitter
- Process gas flame arrestor
- "Z" Purge panel
- RS-485 Modbus communication
- Combustion Efficiency calculation & display

SPECIFICATIONS

General

Measurement method: Direct insertion type zirconia
Measuring range: 0.2 - 50% configurable in 1.0% steps
Accuracy: $\pm 1.0\%$ reading or 0.05% O₂ if greater
Repeatability: $\pm 0.5\%$ full scale/max output
Linearity: $\pm 2\%$ full scale
Response time: 7 sec./90% (initial response 0.1 sec)
Output signal: 4-20mA isolated, 500 ohm max load
Power supply: 90-100VAC, 50/60Hz
Power consumption: 70 VA (normal), 250VA (max)
Enclosure rating: NEMA 4X (IEC IP 66 equivalent)
Electrical & Safety Approvals: CE, FM, TÜV (EN 15267-1, TÜV 25932/2010), C_{FM}US

Detector

Measured gas temperature: -20 to +600°C (general use); -20 to +1500°C (high temperature)
Material (wetted): 316 SS
Sample gas pressure: $\pm 12"$ H₂O (± 306 mm H₂O)
Operating temperature: -20 to +100°C
Storage temperature: -20 to +70°C
Mounting: Horizontal plane $\pm 45^\circ$

Transmitter

Display: 4-digit digital indication
Alarm contacts: 6 configurable (NO, 3 amps @ 250V)
Contact inputs: 3
Calibration gas: O₂/N₂ (1/4" tube fitting)
Operating temperature: -10 to +55°C ambient
Operating humidity: 95% RH, non condensing
Storage temperature: -30 to +70°C
Dimensions: 10"W x 10"H x 4"D (244mm x 244mm x 95mm)
Weight: 10 lbs (4.5 kg)
Mounting: Flush on panel or wall, or on pipe

