

The new standard for combustion flue gas analysis

The 6888 in situ O₂ transmitter provides accurate measurement of the oxygen remaining in the flue gases coming from any combustion process, including:

- > Boilers
- > Kilns
- > Incinerators
- > Process Heaters
- > Industrial Heating Furnaces

By maintaining the ideal level of oxygen, the flue gases coming from these processes, optimal efficiency is gained, and the lowest level of NO_x, CO, and CO₂ are produced.



EASY TO USE. EASY TO INTEGRATE.

This in situ design places a zirconium oxide sensing element at the end of a probe, which inserts directly into a flue gas stream. There are no moving parts or sampling apparatus, resulting in an extremely reliable analyzer that requires very little maintenance. Probe lengths are available from 18" to 12', and a slip mounting option provides the ability to mount a long probe at any insertion depth. Heavy-wall probe tubes are available for applications where fly-ash erosion is a problem. Accessories are available for process temperatures above 700°C to 1050°C.

Calibrations may be performed on-line, while the furnace is in operation, and fully automated calibration with solenoid switching is also available.

The 6888 is fully field repairable. All active components can be replaced, including the diffuser/ filter, sensing cell, heater and thermocouple, and all electronics cards.

Signal conditioning electronics reside in the head of each probe, eliminating the need for expensive signal cable. An optional dual-channel operator interface unit provides an easy-to-use method of setting up the instrument, calibrating, and diagnosing failures.



Power



Refining

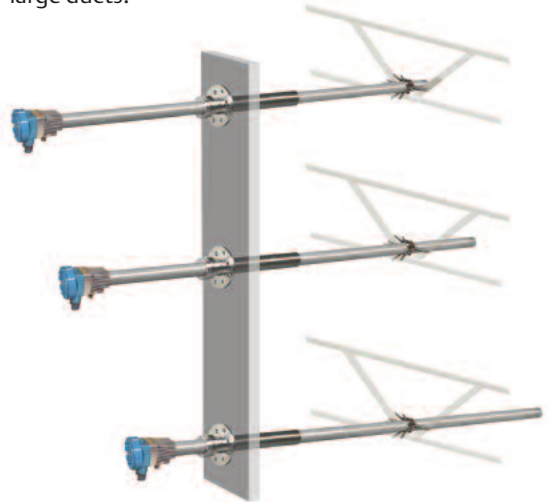
ON-BOARD ELECTRONICS

On-board electronics provides heater control and signal conditioning, resulting in a linear 4-20 mA signal representing flue gas oxygen. Electronics temperature specification is 85°C (185°F). No special signal cable is required. HART® 475 communicator or AMS can be used for setup, calibration, and diagnostics.



VARIABLE INSERTION OPTION

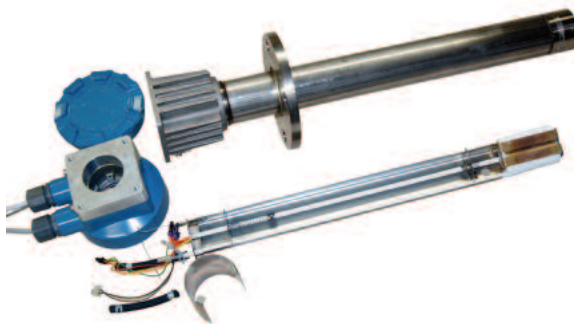
Lengths from 18" (.9m) to 12' (3.65m) the new variable insertion option permits ideal placement of the probe into the flue gas duct. Probe can be adjusted at any time on-line to characterize stratification across large ducts.



COMPLETELY FIELD-REPAIRABLE

Diffusion Filter and Sensor Cell Assembly

- > Outstanding accuracy– + or - .75% of reading or .05% O₂
 - > Special cells for tough service in SO₂ and HCL
 - > Rugged steel cell holder – cells will not crack
- Heater/Thermocouple assembly

**OPTIONAL XI**

The Xi Operator Interface provides a bright back-lit display, easy-to-use keypad in a NEMA 4X (IP 66) enclosure. Dual channel capability provides interface to two probes. Xi Electronics also offers advanced features, including automatic calibration, extended process temperature, plugged diffuser diagnostic, stoichiometer indications in reducing conditions, and programmable reference feature for measuring at near-ambient levels.

Traditional Architecture systems are also available. A “direct replacement” probe with no electronics sends raw millivolt (mV) signals for sensing cell and thermocouple to a single-channel (only) Xi electronics, which does all heater control, signal conditioning, calibrations, diagnostics, and advanced features. Probe can operate with most competitive electronics.

**MEASUREMENT SPECIFICATIONS****Net O₂ range**

variable 0-10% to 0-50%
(Xi electronics offer 0-50% O₂ range)

Accuracy in oxidizing conditions

±0.75% of reading or 0.05% O₂, whichever is greater

Lowest detectable limit

0.02% O₂

Process temperature effect

less than 0.05% O₂ from 100-700°C

System speed of response to calibration gas

Initial response in less than 3 seconds, T90 in less than 8 seconds. Response to process gas changes will vary, depending on process gas velocity and particulate loading of the diffuser

Calibration validity

Presentation of calibration gases matches the normal process to within ±0.02% O₂

Accuracy in reducing conditions

±0.1% of reading, or 0.1% O₂, whichever is greater

System response in reducing conditions

From oxidizing to reducing -T90 in 120 sec.

From reducing to oxidizing -T90 in 30 sec.

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