

WDG 1200/INSITU and WDG 1210/INSITU

Flue gas oxygen analyzers with Modbus communication

The WDG 1200/Insitu and the WDG 1210/Insitu are rugged, reliable flue gas analyzers for net oxygen that use industry-proven zirconium oxide sensor technology. The outer probe tube is 310 stainless steel so no abrasion shield is needed for most applications. The controller features precision temperature control for optimum stability, built-in diagnostics, and over-temperature protection. Modbus interface and 4-20 mA outputs are standard. The unique sensor design allows the entire sensor assembly, including the heater, to be removed without disturbing the outer protection tube which remains in the process. This makes field service fast and easy, and because there is no need to return the probe to the factory for repair, there's no expensive downtime.

APPLICATIONS

- ▶ Combustion efficiency and control
- ▶ Gas, oil, or coal-fired boilers
- ▶ NOx reduction systems
- ▶ Shipboard boilers
- ▶ Excess air measurement
- ▶ Pollution control

INSITU PROBE

- Accuracy (O₂):**
±1% of measured value or ±0.05% oxygen, whichever is greater
- Response:**
Cal Gas < 5 seconds
- Drift:**
< 0.1% of cell output per month (less than 0.005% O₂ per month with 2% O₂ applied)
- Linearity:** ±1% of output span
- Repeatability:** ±1% of output span
- Max. Flue Gas Temp:**
1472°F (800°C)
- Environment:** Indoor/Outdoor Use
Ambient Temp:
-5°F to 160°F (-20°C to 71°C)
Relative Humidity:
10% to 95%, non-condensing
- Probe Lengths:** 9" (0.23m), 18" (0.45m), 36" (0.9m), 72" (1.8m), 108" (2.7m)

INDUSTRIES

- ▶ Bio-fuel boilers
- ▶ Package boilers
- ▶ Power generation
- ▶ CCGT
- ▶ Petrochemicals
- ▶ Process industries
- ▶ Pharmaceuticals
- ▶ Incineration furnaces

Mounting Flanges:

Standard: 2" NPT
ANSI Optional: 2", 3", 4"

Enclosure: NEMA 4X/IP65.

Calibration Gas Requirements:

Use all calibration gases @ 10 psig, 3 to 6 scfh (0.7 bar, 1.4 to 2.8 l/min.)

O₂ Span Gas: Air or from 5% to 25% O₂, balance N₂

O₂ Zero Gas: 2% or from 0.1% to 10% O₂, balance N₂

NOTES:

1. All static performance characteristics are with operating variables constant.
2. System accuracy referenced to 0.1 to 10% calibrated range.
3. Response is to calibration gas.

WDG 1200/Insitu

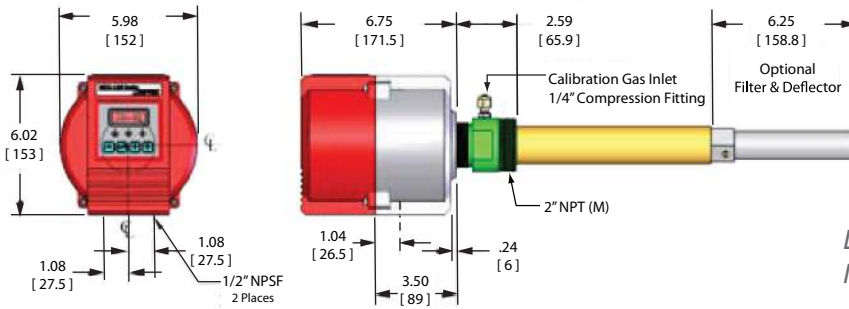
WDG 1210/Insitu



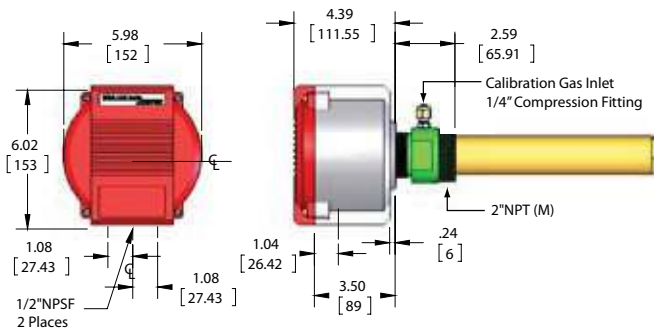
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WDG-INSITU 1200 and 1210

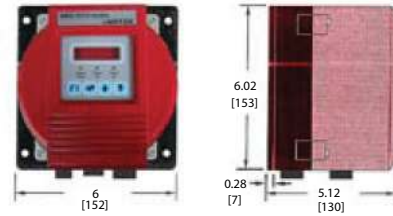
THERMOX®



Dimensions
Model WDG 1200/Insitu



Dimensions
Model WDG 1210/Insitu



Control Unit

Display Type: Single-line 4 digit LED

Parameters:

O₂ Concentration, Calibration Gas Concentration, Cell Temperature, Fault Messages, Cell/Thermocouple information

Analog Outputs:

Single channel isolated 0 to 20; 4 to 20 mA menu selectable, 500 Ω max.

Ranges:

Selectable range 0 to 1% up to 0 to 25% v/v O₂

Serial Output: RS485 Modbus protocol (2-wire, half-duplex)

Alarm Relays: Single pole changeover 2A at 30 V AC or DC.

Alarms: High/Low customer selectable, System Fault, Maintenance / Cal. in Progress

Fault Indication: LED indication and error codes

Calibration: Option to track or hold

Calibration Type: Manual

Power Supply:

85 to 264 VAC; 48 to 62 Hz

Power Rating: 250 VA

Max. Distance to Probe: 985 ft (300m)

Operating Temperature: -5°F to 160°F (-20°C to 71°C)

Enclosure: NEMA 4X/IP65

Weight: 5.95 lb / 2.7 kg

Compliance: Conforms to EN 50 081, EN 50 082, EN61010-1



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