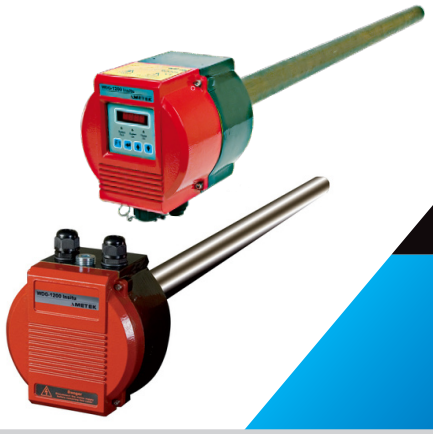
# WDG 1200 & 1210

## FLUE GAS OXYGEN ANALYSERS



- 0 to 25 % Oxygen Concentration

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QUALITY CUSTOMER SOLUTIONS

# WDG 1200 & 1210

## AMETEK LAND HAS BEEN MANUFACTURING PRECISION MEASURING EQUIPMENT SINCE 1947.

### WE ARE SPECIALISTS IN NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION MONITORING WITH OUR PRODUCTS FINDING APPLICATIONS ACROSS DIVERSE INDUSTRIES SUCH AS STEEL AND GLASS MAKING, POWER GENERATION AND CEMENT MANUFACTURE.

As part of AMETEK Process & Analytical Instruments Division since 2006, our customers benefit from the worldwide AMETEK sales and service team.

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**THE WDG SERIES IS A HIGHLY FLEXIBLE RANGE OF HIGH-PRECISION FLUE GAS OXYGEN ANALYSERS DEVELOPED SPECIFICALLY FOR COMBUSTION ANALYSIS AND CONTROL APPLICATIONS.**

The WDG 1200 and 1210 are rugged and reliable for net oxygen and 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 integrated/remote controller features precision temperature control for optimum stability, built-in diagnostics, and over- temperature protection. Modbus 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.

### MODELS

| MODEL | MAXIMUM FLUE GAS TEMPERATURE | READING DISPLAY |
|---|---|---|
| WDG 1200 | 0 - 800 °C / 32 - 1472 °F | INTEGRATED |
| WDG 1210 | 0 - 800 °C / 32 - 1472 °F | REMOTE |

## FEATURES

- Zirconia sensor for accurate and sensitive oxygen measurement
- Simple Installation and operation
- 4-key user interface controls all functions
- Service and maintenance carried out on site
- All parts are field replaceable
- Straightforward integration in plant control system
- Measurement systems for most applications
- Wide range of options
- Outstanding sensor reliability
- Modbus RTU and 4-20 mA outputs

# SPECIFICATION & DESIGN

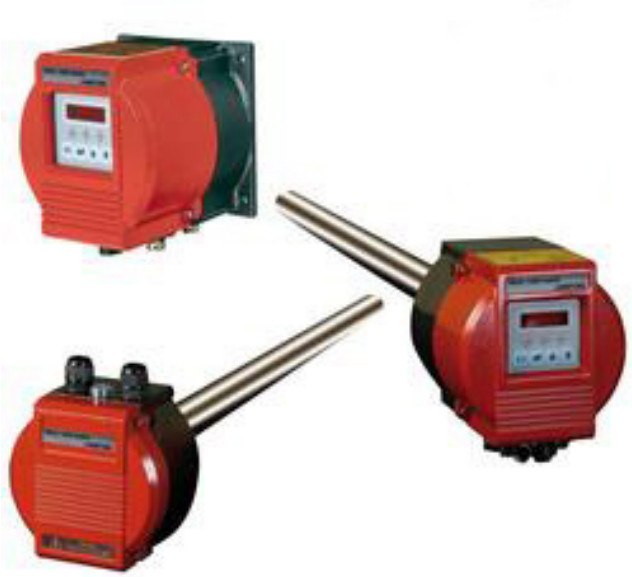
**SIMPLE USER INTERFACE** Simple push-button operation combined with a clear LED display enable complete electronic control of the probe functions. Full setup and diagnostic information is also accessible through the user interface.

**EASY MAINTENANCE** The WDG 1200 / 1210 is fully field serviceable. The unique design allows the inner tube structure to be completely removed for servicing, leaving the outer protection tube attached to the process.

**UNIQUE FLEXIBILITY**
WDG uniquely mounts the user interface onto the probe itself. This enables complete local control at the measurement location and reduces installation costs. Alternatively, a remote user interface can be supplied.

**MODBUS COMMUNICATIONS**
WDG probes can communicate using the RS485 Modbus protocol, for straightforward integration into the plant DCS. There are also 4-20 mA analog and relay outputs.

**VERSATILE PROBE AND MOUNTING**
WDG oxygen probes are available in various lengths with a range of mounting flange options. The dust-protection filter screws into the end of the probe and prevents the sensor from being damaged by fly ash. The sensor is manufactured to the highest possible standards. The sensor design gives a large surface area and an excellent bond between the zirconia and stainless-steel holder



- COMBUSTION EFFICIENCY AND CONTROL
- NOx REDUCTION SYSTEMS
- POLLUTION CONTROL

## KEY MARKETS

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

## APPLICATIONS

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

# WDG 1200 & 1210

## FLUE GAS OXYGEN ANALYSERS

# SPECIFICATIONS

| | |
|---|---|
| **Measurement Range:** | From 0 to 1 %, 0 to 25 % $O_2$ v/v |
| **Accuracy:** | ±1 % of measured value or ± 0.05 % oxygen, whichever is greater |
| **Response Time:** | < 3 secs to calibration gas 63 % of a process step change, 20 secs |
| **Drift:** | < 0.1 % of cell output per month (< 0.005 % O2 per month with 2 % $O_2$ applied) |
| **Linearity:** | ±1 % of output span |
| **Repeatability:** | ±1 % of output span |
| **Probe Lengths:** | 0.22 m (9 in), 0.45 m (18 in), 0.9 m (36 in), 1.8 m (72 in) |
| **Mounting Options:** (JIS) | 2" NPT thread, 3" 300 lb ANSI, 2" 150 lb ANSI, 3" 150 lb ANSI, 4" 300 lb ANSI, DN65 PN6 |
| **Max Flue Gas Temperature:** | 800 °C (1472 °F) |
| **Sample Pressure:** | ±2 psig (± 13.8 kPa) |
| **Environment:** | Ambient Temp. : -20 to 71 °C (-5 to 160 °F) |
| **Relative Humidity:** | 10 % to 90 %, non-condensing |
| **Calibration:** | Manual calibration with optional track or hold |
| **PROBE CONTROL UNIT** | |
| **Display/Keypad:** | Single-line 4-digit LED; 4 keys |
| **Analog Outputs:** | Isolated 4-20 mA. Max impedance 500 ohms. Current loop isolation is 1000 V rms |
| **Alarms:** | System Fault, Maintenance, Calibration in Progress – Single pole form C 2A at 30 V ac/dc |
| **Communications:** | Modbus, Isolated RS-485 2-wire |
| **Environment:** | Ambient Temp.: -20 to 71 °C (-5 to 160 °F) |
| **Relative Humidity:** | 10 % to 80 %, non-condensing |
| **Enclosure:** | IP65 |
| **Power Requirements:** grounding | Nominal 115-230 Vac ±10 %, 47-63 Hz; 4 A 6 mm female thread for earth |
| **System Compliance:** | EMC directive 89/336/EEC Low Voltage Directive 73/23/ EEC, CE |

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