

THE RIGHT ANALYZER FOR *YOUR* APPLICATION!

WDG-INSITU FLUE GAS OXYGEN ANALYZER

DIRECT-SENSING INSITU PROBE SUITABLE FOR APPLICATIONS WHERE THE FLUE GAS TEMPERATURE DOES NOT EXCEED 1250°F (677°C) AND WHERE COMBUSTIBLES MEASUREMENT IS NOT REQUIRED. COMPLETELY FIELD SERVICEABLE.

SENSOR



Principle of Operation: Zirconium oxide for net oxygen measurement.

Output Range: Oxygen: From 0-1% to 0-100%

Accuracy: ±1% of measured value or ±0.05% oxygen, whichever is greater

Response: < 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% O₂ applied)

Linearity: ±1% of output span

Repeatability: ±1% of output span

Max. Flue Gas Temperature: 1250°F (677°C). Outer probe material is RA330.

Sample Pressure

± 2 psig: no adjustments required

± 2 to ± 9 psig: software selectable

± 10 psig and above: consult factory

Environment

Ambient Temp.: -5°F - 160°F (-20°C - 71°C)
Relative Humidity: 10% to 90%, non-condensing

Enclosure: UL type (NEMA 4X) standard. Optional explosion-proof and purged versions available. (Purged version for subatmospheric process pressure only.)

Power Requirements: 115 VAC, ± 10%, 47-63 Hz; 230 VAC, ± 10%, 47-63 Hz; 150 VA max.

Calibration Gas Requirements: Use all calibration gases @ 10 psig, 3 to 6 scfh (0.70 kg/cm², 1.41 to 2.82 L/min.)

O₂ Span Gas: Air or from 1.0% to 100% O₂, balance N₂

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

SERIES 2000 CONTROL UNIT



Display: Four-line x 20-character vacuum fluorescent. Displays combinations of oxygen, time and date, cell temperature, user-programmable text, thermocouple mV or cell mV. Password protection, programmable pressure compensation and context sensitive help are also provided.

Analog Output: Two isolated linear current outputs. Select O₂, cell temperature, thermocouple mV or cell mV. Each output can be 4-20 mA, 0-20 mA, 20-4 mA or 20-0 mA and is fully scalable. Hold or track during calibration and select degree of damping. Maximum load 1200 ohms.

Alarms: Two independent oxygen alarms, each high- or low-selectable. One alarm can be assigned as oxygen, calibrate or verify. Set relays to energize or de-energize on alarm.

Contact Rating: 1A, 30V max. noninductive load, AC or DC

Diagnostics: Watchdog timer and service alarms. System test for A/D, RAM, EEPROM and keypad. Display line 4 reserved for full-text error and diagnostic messages. Twenty-entry event log.

Communications: RS-485 2-way addressable.

Environment

Ambient Temp.: 14°F to 122°F (-10°C to 50°C)
Relative Humidity: 10% to 80%, non-condensing

Enclosure: Standard weatherproof NEMA 4 (IP 56) wall/panel mount. Optional GP (General Purpose) wall mount, GP 19" rack mount, GP panel mount, or stainless steel weatherproof NEMA 4X (IP 56) wall/panel mount. All are UL Listed for NEC Class I, Division 2 areas. Purged and explosion-proof versions also available.

Calibration: Oxygen cell lifetime extender. Calibrate or verify calibration. Store last calibration and verification data. Selectable calibration gas run time and process recovery time. Timed automatic calibration with optional Remote Calibration Unit.

Power Requirements: Nominal 115-230 VAC ±10%, 47-63 Hz; 75 VA max.

System Compliance

EMC Directive 89/336/EEC
Low Voltage Directive 73/23/EEC

DIMENSIONS

SENSOR

INCHES
CM

PROBE TYPE	X INCHES (CM)	S INCHES (CM)	WEIGHT* LB (KG)
9"	8.75 (22.2)	7.0 (17.8)	15 (6.8)
18"	17.75 (45.1)	16.0 (40.6)	20 (9.1)
36"	38.75 (98.4)	37.0 (94.0)	25 (11.3)
72"	74.75 (189.9)	73.0 (185.4)	40 (18.1)
108"	110.75 (281.3)	109.0 (276.8)	50 (22.7)

*APPROX. WEIGHT – INCLUDES PROBE + FLANGE.
108" PROBE MUST HAVE INTERNAL SUPPORT PROVIDED BY CUSTOMER.
STANDARD THERMOX MOUNTING FLANGES: 3" – 300# AND 4" – 150#.
OTHER CONFIGURATIONS ARE AVAILABLE UPON REQUEST.

CONTROL UNIT

APPROX. WEIGHTS
 NEMA 4 WALL/PANEL MOUNT: 28 lb (12.7 kg)
 19" RACK MOUNT: 14 lb (6.35 kg)
 PANEL MOUNT: 14 lb (6.35 kg)
 WALL MOUNT: 14 lb (6.35 kg)

REMOTE CALIBRATION UNIT

RCU ENCLOSURE NEMA 4X
APPROX. WEIGHT: 8 LB (3.6 KG)

Notes:
 1. All static performance characteristics are with operating variables constant.
 2. System accuracy referenced to 0.1 to 10% calibrated range.

One of a family of innovative process analyzer solutions from AMETEK Process Instruments. Specifications subject to change without notice.

USA - Pennsylvania
 150 Freepoint Road
 Pittsburgh, PA 15238
 Ph. 412-828-9040
 Fax 412-826-0399



CANADA
 2876 Sunridge Way N.E.
 Calgary, AB T1Y 7H9
 Ph. 403-235-8400
 Fax 403-248-3550

USA - Delaware
 455 Corporate Blvd.
 Newark, DE 19702
 Ph. 302-456-4400
 Fax 302-456-4444

USA - Oklahoma
 2001 N. Indianwood Ave.
 Broken Arrow, OK 74012
 Ph. 918-250-7200
 Fax 918-459-0165

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 PROCESS INSTRUMENTS
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SUPPORT LOCATIONS

USA - Texas
 Ph. 281-463-2820
 Fax 281-463-2701

CHINA - Beijing
 Ph. 86-10-85262111
 Fax 86-10-85262141

CHINA - Shanghai
 Ph. 86 21 6426 8111
 Fax 86 21 6426 7054

FRANCE
 Ph. 33 1 30 68 89 00
 Fax 33 1 30 68 89 99

GERMANY
 Ph. 49 21 59 91 36 0
 Fax 49 21 59 91 36 80

MIDDLE EAST - Dubai
 Ph. 971-4-881 2052
 Fax 971-4-881 2053

SINGAPORE
 Ph. 65-6484-2388
 Fax 65-6481-6588