

### THE RIGHT ANALYZER FOR *YOUR* APPLICATION!

## WDG-HPIIC FLUE GAS OXYGEN & COMBUSTIBLES ANALYZER

CLOSE-COUPLED CONVECTIVE DESIGN FOR HIGH PARTICULATE APPLICATIONS. SUITABLE FOR FLUE GAS TEMPERATURES UP TO 2800°F (1537°C). COMPLETELY FIELD SERVICEABLE.

### SENSOR



**Principle of Operation:** Zirconium oxide for net oxygen measurement.

#### Output Range:

Oxygen: From 0-1% to 0-100%  
 Combustibles: From 0-2,000 ppm to 0-10,000 ppm or from 0-1% to 0-5%

#### Accuracy:

Oxygen:  $\pm 0.75\%$  of measured value or  $\pm 0.05\%$  oxygen, whichever is greater  
 Combustibles:  $\pm 2\%$  of full scale output range

#### Response:

Oxygen: < 3 sec. to calibration gas. 63% of process step change < 16 secs. with 24" probe

**Drift:** < 0.1% of cell output per month (< 0.005% O<sub>2</sub> per month with 2% O<sub>2</sub> applied)

#### Max. Flue Gas Temp. / Probe Type

1300°F (704°C) / 316 SS  
 1875°F (1024°C) / RA330  
 2800°F (1537°C) / Ceramic

**Probe Lengths:** 24", 36" & 48" (0.60m, 0.91m & 1.21m)

**Max. Sample Dewpoint:** 450°F (232°C)

#### Sample Pressure:

$\pm 2$  psig: no adjustments required  
 $\pm 2$  to  $\pm 9$  psig: software selectable  
 $\pm 10$  psig and above: consult factory

#### Environment:

Ambient Temp.:  
 -5°F to 160°F (-20°C to 71°C);  
 -5°F to 140°F (-20°C to 60°C) with Div. 2 Option  
 Relative Humidity: 10% to 90%, non-condensing

**Enclosure:** Lift-off NEMA 3R, weather resistant, stainless steel. Optional hinged NEMA 4X (IP56), explosion-proof, purged, and floor mount versions available.

**Power Requirements:** 115 VAC,  $\pm 10\%$ , 47-63 Hz, 600 VA max. (650 VA max. w/floor mount option); 230 VAC,  $\pm 10\%$ , 47-63 Hz, 1850 VA max. (1900 VA max. w/floor mount option)

**Calibration Gas Requirements:** Use calibration gases @ 10 psig, 1.5 scfh (0.70 kg/cm<sup>2</sup>, 0.7 L/min.)

O<sub>2</sub> Span Gas: Air or from 1.0% to 100% O<sub>2</sub>, balance N<sub>2</sub>

O<sub>2</sub> Zero Gas: 2% or from 0.1% to 10% O<sub>2</sub>, balance N<sub>2</sub>

Comb. Span Gas: 60 to 80% (ppm ranges) or 40 to 60% (% ranges) of the selected comb. recorder output range in certified mixuter of CO + H<sub>2</sub>, 3-4% O<sub>2</sub>, balance N<sub>2</sub>

### 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 O<sub>2</sub>, cell temperature, thermocouple mV or cell mV. Each output can be 4-20 mA, 0-20 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. Two high combustibles alarms. Set relays to energize or de-energize on alarm.

**Contact Rating:** 1 A, 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.

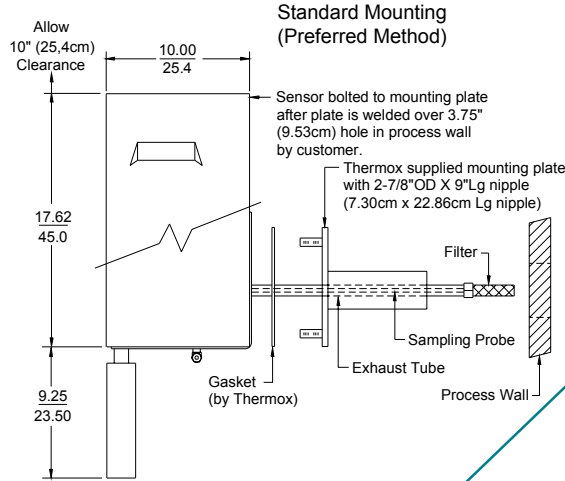
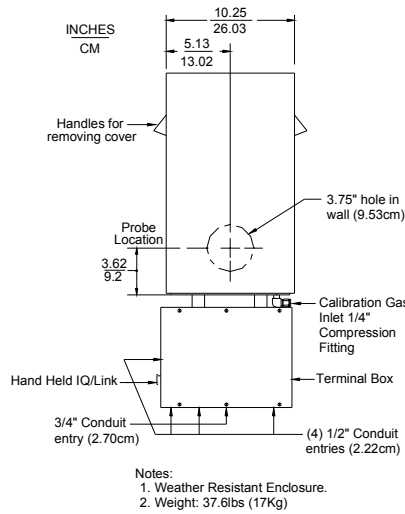
**Power Requirements:** Nominal 115-230 VAC  $\pm 10\%$ , 47-63 Hz, 75 VA max.

#### System Compliance:

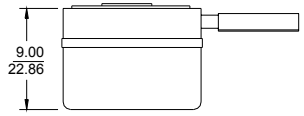
EMC Directive 89/336/EEC  
 Low Voltage Directive 73/23/EEC

# DIMENSIONS

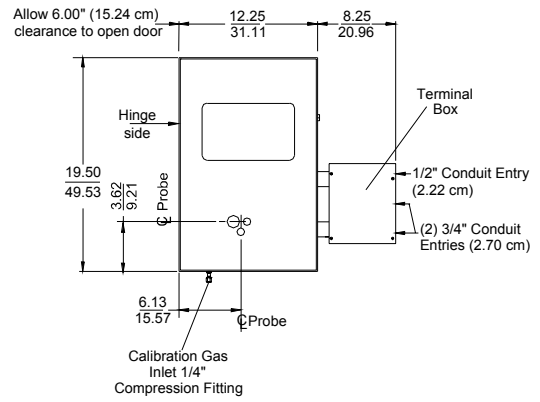
## SENSOR



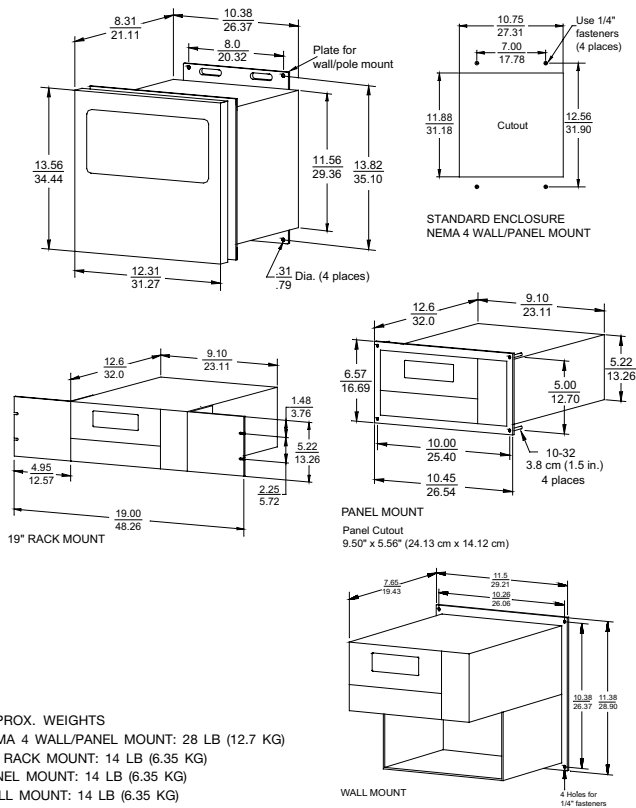
OPTIONAL HINGED ENCLOSURE  
APPROX. WEIGHT: 53.0 LB (24.0 KG)



OPTIONAL FLOOR MOUNT VERSION AVAILABLE (VERTICAL PROBE)



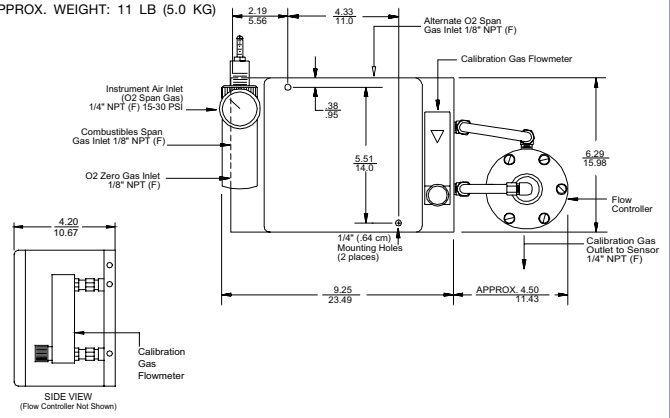
## CONTROL UNIT



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: 11 LB (6.0 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.

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