

# WDG-IVC / 0 TO 500 PPM

## FLUE GAS OXYGEN & COMBUSTIBLES ANALYZER

Close-coupled extractive design for fast response in flue gases up to 3000°F (1648°C). A thick-film, laser-trimmed combustibles detector provides ±25 ppm combustibles accuracy between 0 to 500 ppm. Recommended for applications with natural gas and light oil as fuel.

### SENSOR

**Principle of Operation:** Net oxygen and combustibles analyzer using zirconium oxide for oxygen and a catalytic detector for combustibles. Completely field serviceable.

#### Output Range:

Oxygen: From 0-1% to 0-100%  
 Combustibles: From 0-500 ppm to 0-10,000 ppm or from 0-1% to 0-5%

#### Accuracy:

Oxygen: ± 0.75% of measured value or ±0.05% oxygen, whichever is greater  
 Combustibles: ± 25 ppm between 0 to 500 ppm or ±5% of full scale output range

**Response:** Oxygen: 90% of a step change <30 seconds.

**Aspirator Air Requirements:** 10 - 20 scfh (4.72 - 9.4 L/min.) at 15 - 100 psig (1.05 - 7.04 kg/cm<sup>2</sup>)

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

1300°F (704°C) / 316 SS / 36" - 108" (91 cm - 274 cm)  
 1875°F (1024°C) / 310 SS / 36" - 108" (91 cm - 274 cm)  
 3000°F (1648°C) / Hexoloy® / 24" - 72" (60 cm - 182 cm)

**Max. Sample Dewpoint:** 392°F (200°C)

**Sample Pressure:** ± 10 in. water gauge

#### 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:** Hinged, stainless steel, weatherproof NEMA 4X (IP56). Flame arrestors standard. Optional NEC Class I, Division 2 available.

**Power Requirements:** 115 VAC, ±10%, 47-63 Hz, 600 VA max. 650 VA max. floor mount version); 230 VAC, ±10%, 47-63 Hz, 1850 VA max. (1900 VA max. floor mount version)

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

*Comb. Span Gas:* 80 to 100% of the selected combustibles recorder output range in certified mixtures 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 oxygen, % or ppm combustibles, 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 for oxygen and one for combustibles. Select O<sub>2</sub>, combustibles, 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, 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:** 0.5A, 30V, 10VA 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.

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

**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

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

**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.

#### System Compliance:

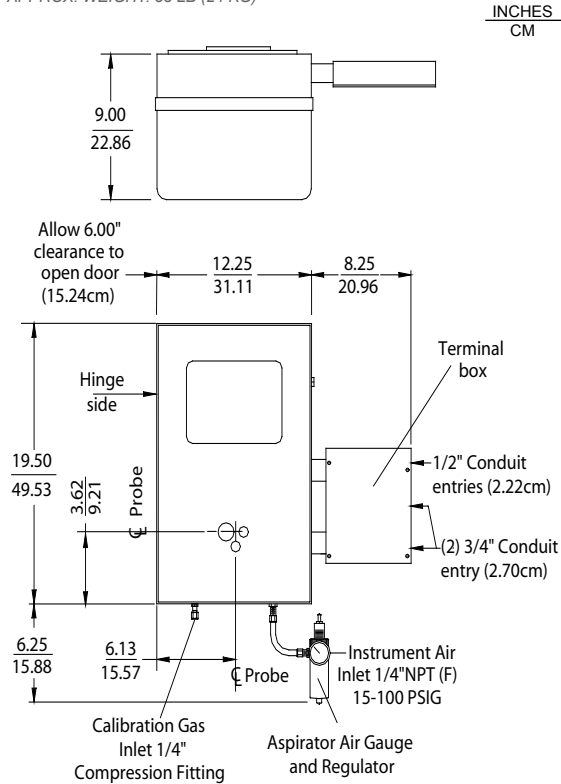
EMC Directive: 2004/108/EC

Low Voltage Directive: 73/23/EEC

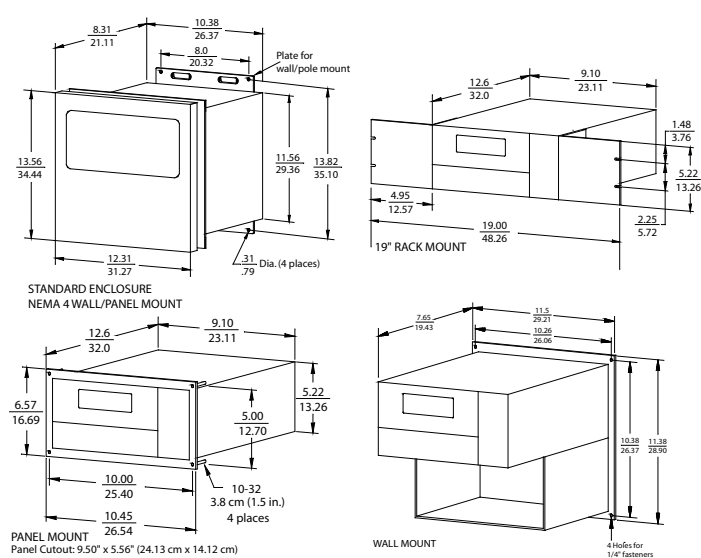
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## HINGED SENSOR ENCLOSURE

APPROX. WEIGHT: 53 LB (24 KG)



## CONTROL UNIT



STANDARD ENCLOSURE  
NEMA 4 WALL/PANEL MOUNT

PANEL MOUNT  
Panel Cutout: 9.50" x 5.56" (24.13 cm x 14.12 cm)

19" RACK MOUNT

WALL MOUNT

APPROX. WEIGHTS

NEMA 4 WALL/PANEL MOUNT: 28 LB (12.7 KG)

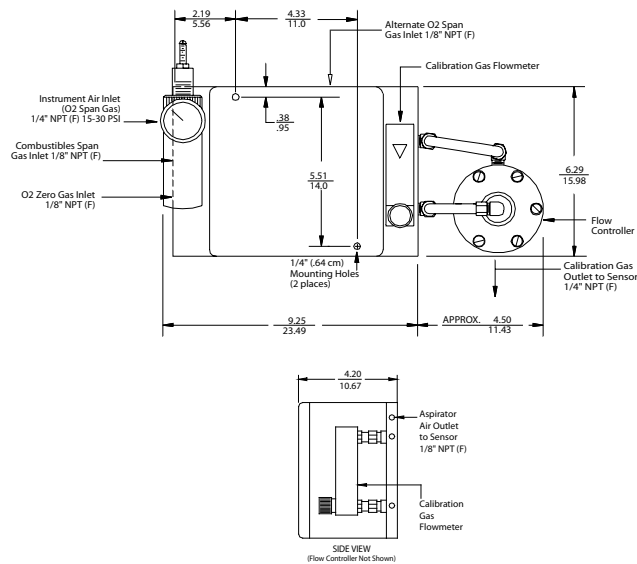
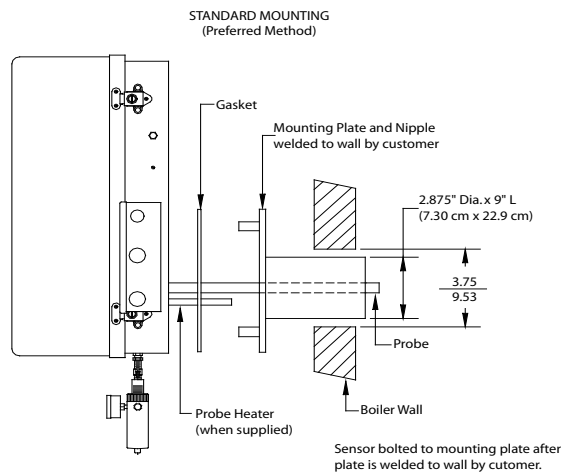
19" RACK MOUNT: 14 LB (6.35 KG)

PANEL MOUNT: 14 LB (6.35 KG)

WALL MOUNT: 14 LB (6.35 KG)

## REMOTE CALIBRATION UNIT

RCU ENCLOSURE NEMA 4X - APPROX. WEIGHT: 8.0 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.
  3. Response is to calibration gas (with flame arrestors).

**AMETEK**  
PROCESS INSTRUMENTS

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

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RMOX<sup>®</sup>