

WDG-IVCM

FLUE GAS OXYGEN, COMBUSTIBLES & METHANE ANALYZER

Close-coupled extractive design for fast response in a wide range of flue gas applications up to 3000°F (1648°C). Completely field serviceable.



SENSOR

Principle of Operation: Zirconium oxide for net oxygen measurement and dual hot-wire catalytic detectors for both combustibles and methane.

Output Range:

Oxygen: From 0-1 to 0-100%
 Combustibles: From 0-2,000 PPM to 0-10,000 PPM
 Methane: 0-5%

Accuracy:

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

Methane: $\pm 5\%$ of full scale output range

Response - Oxygen: 90% of a step change < 13 seconds;
 Combustibles: 90% of a step change < 30 seconds

Drift: < 0.1% of cell output per month (< 0.005% O₂ per month with 2% O₂ applied)

Aspirator Air Requirements: 10 to 20 scfh (4.72 to 9.4 L/min.) at 15 to 100 psig (1.05 to 7.04 kg/cm²)

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: Lift-off NEMA 3R, weather resistant, stainless steel. Optional hinged NEMA 4X (IP65), explosion-proof, purged, and floor mount versions available.

Power Requirements: 115 VAC, $\pm 10\%$, 47-63 Hz, 700 VA max. (750 VA max. w/floor mount option); 230 VAC, $\pm 10\%$, 47-63 Hz, 1950 VA max. (2000 VA max. w/floor mount option)

Calibration Gas Requirements: For sensors without flame arresters use calibration gases @ 10 PSIG, 1.5 SCFH (0.7 L/min.)

For sensors with flame arresters use calibration gases @ 10 PSIG, 2 SCFH (1 L/min.)

Note: Flame arresters are standard in all certified Div. 2 and ATEX analyzers

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

O₂, Comb. & CH₄ Zero Gases: From 0.1 to 10% O₂, balance N₂

Comb. Span Gas: 60 to 80% (PPM ranges) or 40% to 60% (% ranges) of the selected comb. recorder output range in certified equal mixtures of CO + H₂, 3-4% O₂, balance N₂

CH₄ Span Gas: 2% CH₄, 8% to 10% O₂, balance N₂

SERIES 2000 CONTROL UNIT



Display: Four line x 20-character vacuum fluorescent. Displays combinations of oxygen, PPM combustibles, methane, 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 O₂ and one each for combustibles and methane. Select O₂, combustibles, methane, 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. Max. 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 and two high methane alarms. Set relays to energize or deenergize 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 last 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° to 122°F (-10° to 50°C)
 Relative Humidity: 10% to 80%, non-condensing

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

Enclosure: Standard weatherproof NEMA 4 (IP65) wall/panel mount. Optional GP (General Purpose) wall mount, GP 19" rack mount, GP panel mount, or stainless steel weatherproof NEMA 4X (IP65) wall/panel mount. All are UL Listed for NEC Class I, Division 2 areas. Purged and explosion-proof versions also available.

System Compliance:

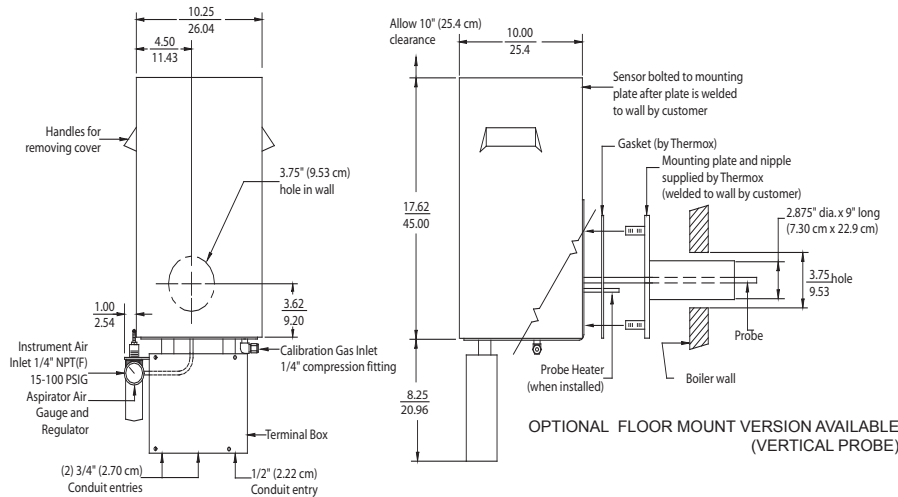
EMC Directive 2004/108/EC
 Low Voltage Directive 73/23/EEC

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WDG-IVCM ANALYZER

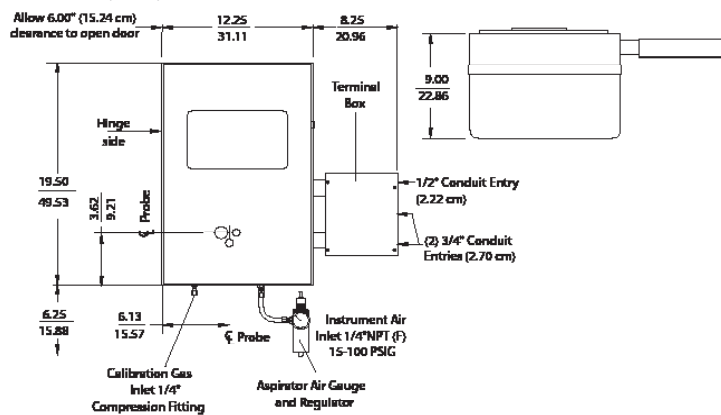
STANDARD LIFT-OFF SENSOR ENCLOSURE

APPROX. WEIGHT: 37.6 LB (17KG)



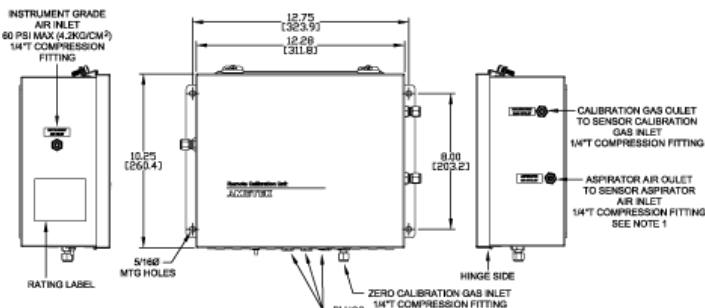
OPTIONAL: HINGED SENSOR ENCLOSURE

APPROX. WEIGHT: 53 LB (24 KG)



REMOTE CALIBRATION UNIT

RCU ENCLOSURE NEMA 4X



- 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 (without flame arrestors).

AMETEK
PROCESS INSTRUMENTS

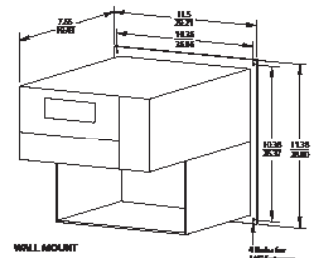
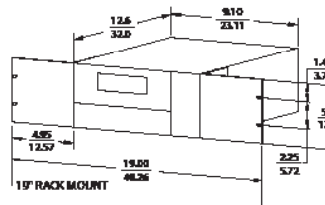
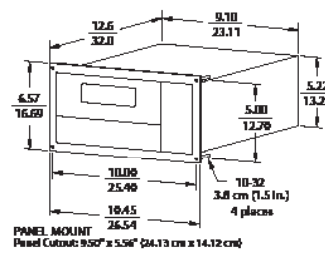
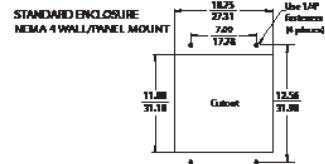
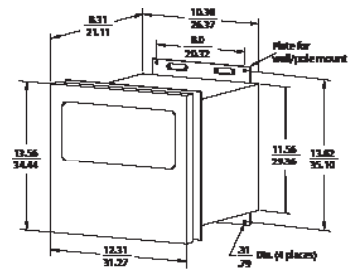
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One of a family of innovative process analyzer solutions from AMETEK Process Instruments.
Specifications subject to change without notice.

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)

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