

## WDG-HPII FLUE GAS OXYGEN ANALYZER

Close-coupled convective design for high particulate applications. Suitable for flue gas temperature up to 2800°F (1537°C). Completely field serviceable.



**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, ±10%, 47-63 Hz, 600 VA max. (650 VA max. w/floor mount option); 230 VAC, ±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>

### 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: 2004/108/EC  
Low Voltage Directive: 73/23/EEC

### SENSOR

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

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

**Accuracy:** ±0.75% of measured value or ±0.05% oxygen, whichever is greater

**Response:** 90% of a step change <30 seconds 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) / 310 SS  
2800°F (1537°C) / Ceramic

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

**Max. Sample Dewpoint:** 392°F (200°C) standard. High dewpoint sensors are available for sample dewpoints up to 700°F (371°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

### 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. Set relays to energize or de-energize on alarm.

**Contact Rating:** 1 A, 30V max. non-inductive 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

### EXCESS FUEL OPTION

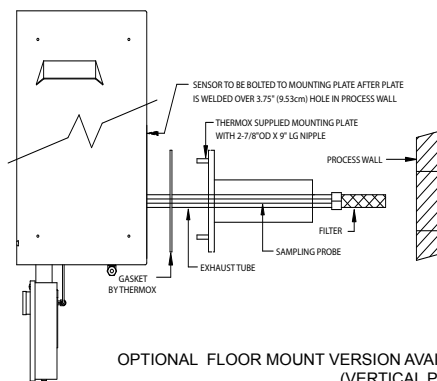
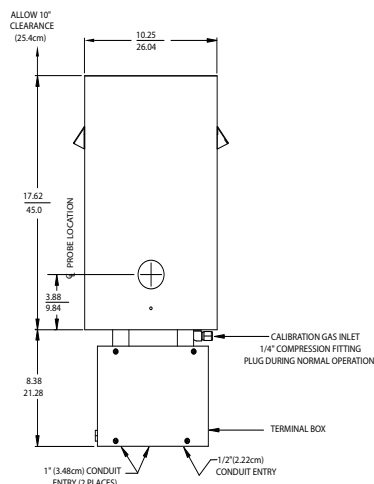
Extends operating range of analyzer from excess oxygen only to include substoichiometric conditions (excess fuel). Allows two-point calibration in excess fuel range. Measure, display, and provide alarms and analog outputs as follows:

- Display Options: Excess fuel, combustibles, oxides/fuel, fuel/oxides, combined excess oxygen/excess fuel (combustibles)
- Display Range: 0-50% excess fuel
- Output Range: 0-1% to 0-50% excess fuel
- Alarms: Standard alarms can be used for high or low excess fuel levels

# WDG-HPII ANALYZER

## STANDARD LIFT-OFF SENSOR ENCLOSURE

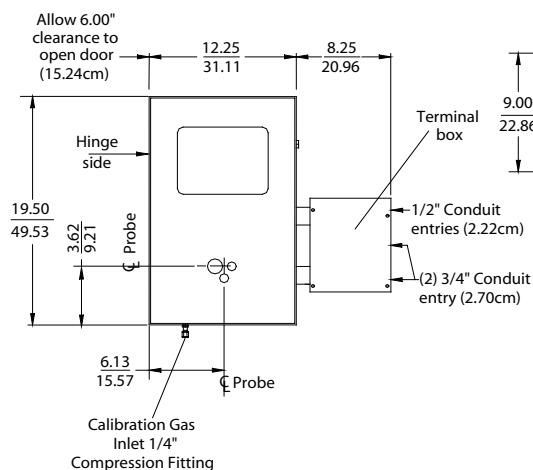
APPROX. WEIGHT: 37.6 LB (17KG)



OPTIONAL FLOOR MOUNT VERSION AVAILABLE (VERTICAL PROBE)

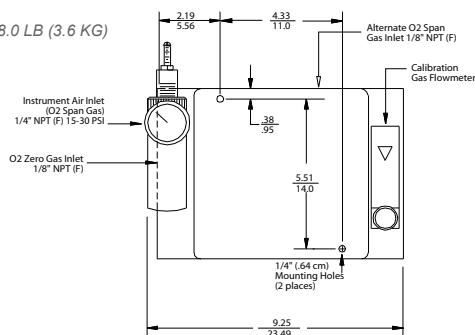
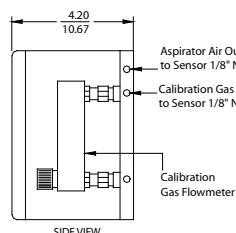
## OPTIONAL: HINGED SENSOR ENCLOSURE

APPROX. WEIGHT: 53 LB (24 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.

**AMETEK**  
PROCESS INSTRUMENTS

150 Freeport Road, Pittsburgh, PA 15238  
Ph. +1-412-828-9040, Fax +1-412-826-0399  
www.thermox.com

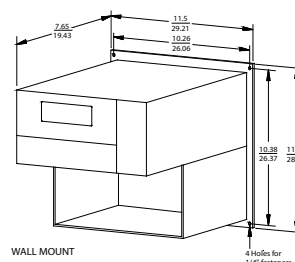
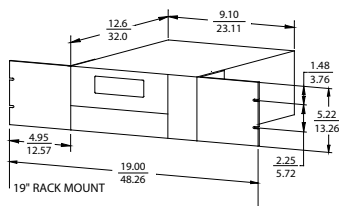
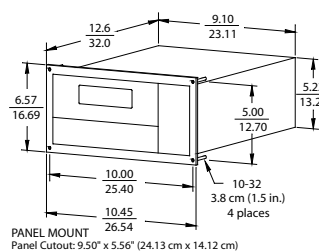
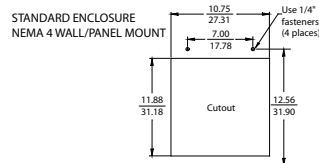
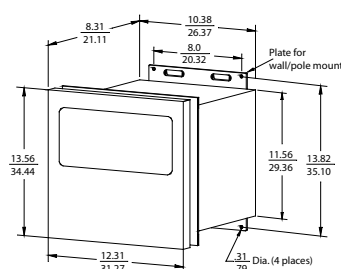


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INCHES  
CM

## 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)

## SALES AND MANUFACTURING:

USA - Delaware  
455 Corporate Blvd., Newark DE 19702 • Tel: +1-302-456-4400, Fax: +1-302-456-4444  
USA - Oklahoma  
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## WORLDWIDE SALES AND SERVICE LOCATIONS:

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