

## WDG IVC/IQ - 0 TO 500 PPM, OXYGEN & COMBUSTIBLES WDG IVCM/IQ - 0 TO 500 PPM, OXYGEN, COMBUSTIBLES & METHANE SMART FLUE GAS ANALYZERS

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.

### SPECIFICATIONS

**Principle of Operation:** Zirconium oxide for net oxygen measurement and catalytic detectors for both combustibles and methane. Flame arrestors included in standard package. 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%  
Methane: From 0-1% to 0-5%

**Accuracy:**

Oxygen: ± 0.75% of measured value or ±0.05% O<sub>2</sub>, whichever is greater  
Combustibles: ±25 ppm from 0-500 ppm or ±5% of full scale output range  
Methane: ±5% of full scale output range

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

**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/cm<sup>2</sup>)

**Drift - Oxygen:** < 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 / Length:**

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 - 152 cm)

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

**Alarms:** Three dry contact alarms. Alarms can be set to oxygen, high combustibles and high methane. One can be set to start-of-calibration, start-of-verify, or both.

**Contact Rating:** 1 A, 30 V max., non-inductive load, AC or DC

**Diagnostics:** Watchdog timer and service alarm (trouble alarm). System test for A/D, RAM, and EEPROM. 20-entry event log.

**Communications:** RS-485, RS-232 (IQ Links), HART® Option available.

**Analog Outputs:** Three isolated linear current outputs. Select O<sub>2</sub>, 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 cal and select degree of damping. Maximum load 1100 ohms.

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



**Enclosure:** Stainless steel, weather-proof NEMA 4X (IP56) and NEC Class I, Division 2 options available.

**Environment:**

Ambient Temp.:  
-5°F to 150°F (-20°C to 65°C);  
-5°F to 140°F (-20°C to 60°C) with Div. 2 Option

Operating Temp.: -20°C to 85°C  
See Note 1)

Relative Humidity: 10% to 90%, non-condensing

**Power Requirements:** WDG-IVCM/IQ: 115 VAC, ±10%, 47-63 Hz., 740 VA max. (750 VA max. floor mount version);

230 VAC, ±10%, 47-63 Hz., 1990 VA max. (2040 VA max. floor mount version)

**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.

**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>, Comb. & CH<sub>4</sub> Zero Gases: 2% or from 0.1 to 10% O<sub>2</sub>, balance N<sub>2</sub>

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

CH<sub>4</sub> Span Gas (WDG IVCM/IQ): 2% CH<sub>4</sub>, 8 to 10% O<sub>2</sub>, balance N<sub>2</sub>

**System Compliance:**

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

### OPTIONAL

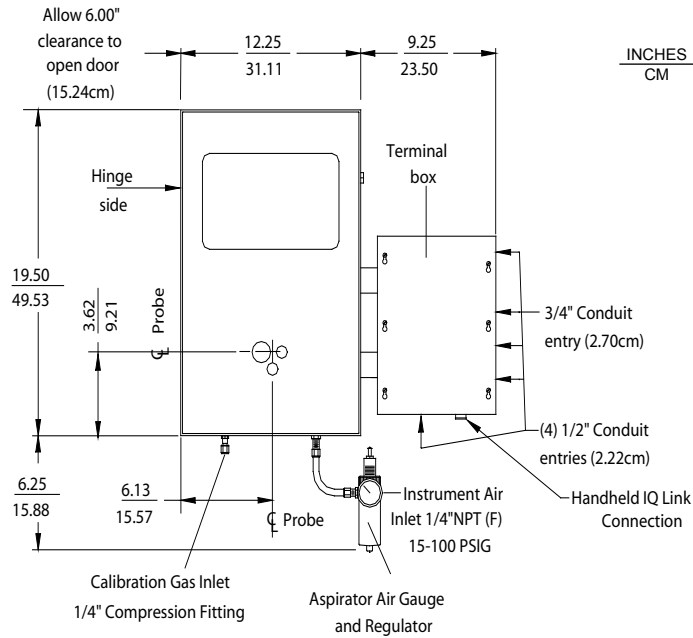
IQ Link provides a local interface to set up and display system parameters, initiate calibrations, and perform system tests and troubleshooting. Handheld or dedicated wall mount versions available. Refer to Bulletin P-620 for more IQ Link information.

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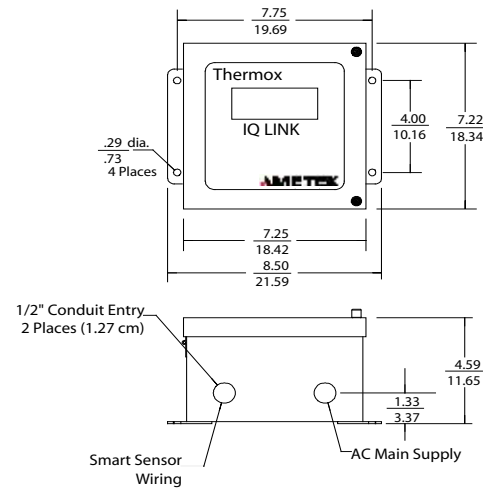
## SENSOR

APPROX WEIGHT: 53 L/B / 24.0 KG



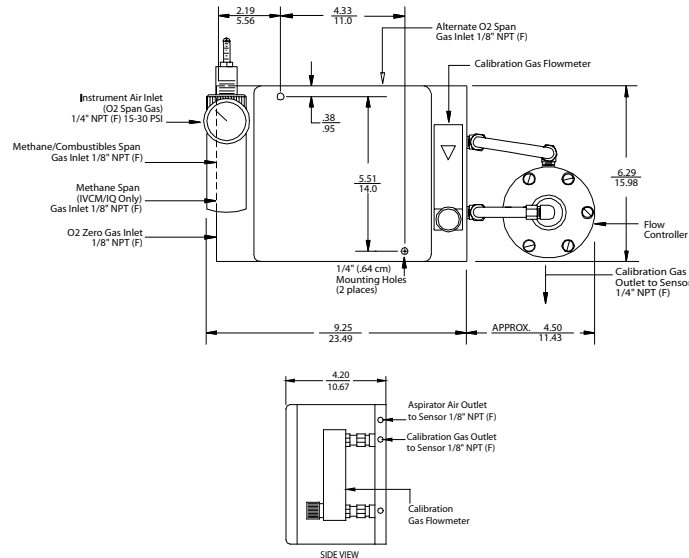
## WALL MOUNT IQ LINK - OPTIONAL

APPROX WEIGHT: 10 L/B / 4.53 KG



## REMOTE CALIBRATION UNIT

RCU ENCLOSURE NEMA 4X - APPROX. WEIGHT: 11 LB / 5.0 KG



### NOTES:

1. Operating temperature of electronics inside the electronics housing as measured by IQ Link, RS247 Web Enabled Remote System, Series 2000 Host, or Hart Communicator.
2. All static performance characteristics are with operating variables constant.
3. System accuracy referenced to 0.1 to 10% calibrated range.
4. Response is to calibration gas (includes flame arrestors).

### SALES AND MANUFACTURING:

**USA - Delaware**  
455 Corporate Blvd., Newark DE 19702 • Tel: +1-302-456-4400, Fax: +1-302-456-4444

**USA - Oklahoma**  
2001 N. Indianwood Ave., Broken Arrow OK 74012 • Tel: +1-918-250-7200, Fax: +1-918-459-0165

**CANADA - Alberta**  
2876 Sunridge Way N.E., Calgary, AB T1Y 7H9 • Tel: +1-403-235-8400, Fax: +1-403-248-3550

### WORLDWIDE SALES AND SERVICE LOCATIONS:

**USA - Texas**  
Tel: +1-713-466-4900, Fax: +1-713-849-1924

**CHINA**  
Beijing / Tel: 86 10 8526 2111, Fax: 86 10 8526 2141  
Chengdu / Tel: 86 28 8675 8111, Fax: 86 28 8675 8141  
Guangzhou / Tel: 86 20 8363 4768, Fax: 86 20 8363 3701  
Shanghai / Tel: 86 21 5868 5111, Fax: 86 21 5866 0969

**FRANCE**  
Tel: 33 1 30 68 89 20, Fax: 33 1 30 68 89 29

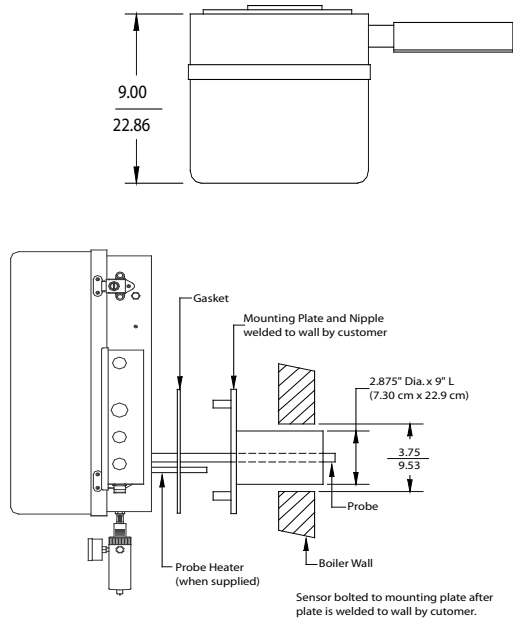
**GERMANY**  
Tel: 49 21 59 91 36 0, Fax: 49 21 59 91 36 39

**INDIA**  
Tel: 91 80 6782 3200, Fax: 91 80 6782 3232

**MIDDLE EAST - Dubai**  
Tel: 971 4 881 2052, Fax: 971 4 881 2053

**SINGAPORE**  
Tel: 65 6484 2388, Fax: 65 6481 6588

## STANDARD MOUNT (Preferred Method)



# AMETEK®

## PROCESS INSTRUMENTS

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Specifications subject to change without notice.

# THE THERMOX®