

WDG-V ZONE 1 EXd Series-Flame Proof

WDG-V Z1 EXd O₂ Only

WDG-VC Z1 EXd O₂, CO_e

WDG-VCM Z1 EXd O₂, CO_e CH₄

COMBUSTION OXYGEN & COMBUSTIBLES 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.

Features and Benefits

|| Control and Safety

AMETEK ThermoX WDG-V extractive combustion analyzer offer industry leading safety support. First in its class to be third party certified for SIL-2 implementation in safety instrumented systems. The WDG-V provides a complete solution for combustion control and safety.

|| Hazardous Environments

New enclosure design certified for IEC Zone 1 requirements.

Certificate No.: IECEx ETL 16.0028X

|| Self-Contained

Integral unit with no purge required, self-contained housing that provides a new layer of safety. Integral flow sensor standard with Zone 1

|| Range of Measurement

Measurements of O₂, CO_e and CH₄ in one unit

|| Connectivity

Digitally transmitted information via MODBUS and Ethernet that can be used for predictive and proactive asset management



SENSOR

Principle of Operation: Zirconium oxide for net oxygen measurement and catalytic detectors for combustibles.

Output Range:

Oxygen: From 0-1 to 0-100%
Combustibles: 0-500 PPM to 0-5%

Methane: 0-5%

Accuracy:

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

Response:

Oxygen: 90% of a step change < 11 seconds with Flame Arrestors
Combustibles: 90% of a step change < 20 seconds with Flame Arrestors

Aspirator Air Requirements: 3 SCFH Typical at 3 to 6 psig, Instrument air or Nitrogen

Analog Output: Three isolated linear current outputs for oxygen, combustibles and methane. Each output can be 4-20 mA, 0-20 mA, 20-4 mA or 20-0 mA and is fully scalable. NAMUR Configurable. Hold or track during calibration. Max. load 1200 Ω

Alarms: Five independent, NO alarms
Set relays to energize or de-energize on alarm

Contact Rating: 0.5A, 30V, 10VA max. non-inductive load, AC or DC

Digital Communication: 2 wire MODBUS RTU, 57.6 Kbaud

Configuration: MODBUS RTU, AMETEK configuration software, or AMEVision HMI

Diagnostics: Low Sample Flow, Cell & Detector age tracking, Cell resistance, Calibration required, Analog current verification

Calibration: Calibrate or verify calibration.

Stored calibration and verification data. Selectable calibration gas run time and process recovery time. Timed automatic calibration

Sample Pressure: ±6 in. water gauge

Max. Sample Dewpoint: 392°F (200°C)

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)

Environment:

Ambient Temp.: -30°C to 65°C

Relative Humidity: 5% to 95%, non-condensing

Enclosure: Threaded IP65 (NEMA 4X), weather resistant, aluminum with powder coat, white, EXd flame proof
Certification: Ex II 2G Exd IIC T3 Gb / IECEx ETL 16.0028X

Power Requirements: 115 VAC, ±10%, 47-63 Hz, 740 VA max.; 230 VAC, ±10%, 47-63 Hz, 740 VA max.

Calibration Gas Requirements: Use calibration gases @ 10 psig, 3 SCFH (0.7 L/min.)

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

O₂ Comb. 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

AMEVision HMI/LOCAL DISPLAY



Display: 4.2" Color 1/4W VGA with Graphical User Interface. Password protected.

Keypad: 18 key, Membrane

Input: 2 wire MODBUS RTU from Sensor. Host capable up to 8 sensors

Digital Outputs: 2 or 4 wire MODBUS RTU, TCP/IP Ethernet with embedded Web Server (RJ45 connection), USB Port for Data collection or software update.

Environment:

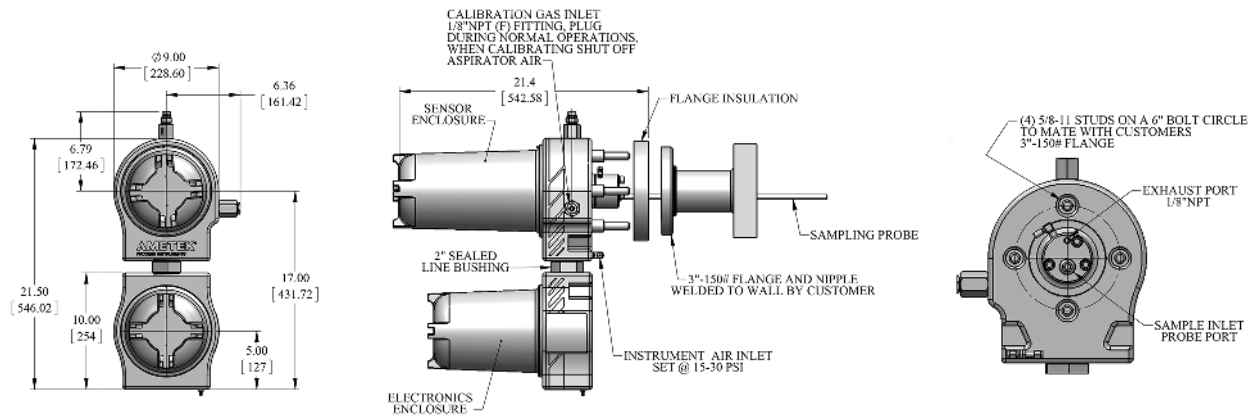
Ambient Temp.: -25° to 60°C

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

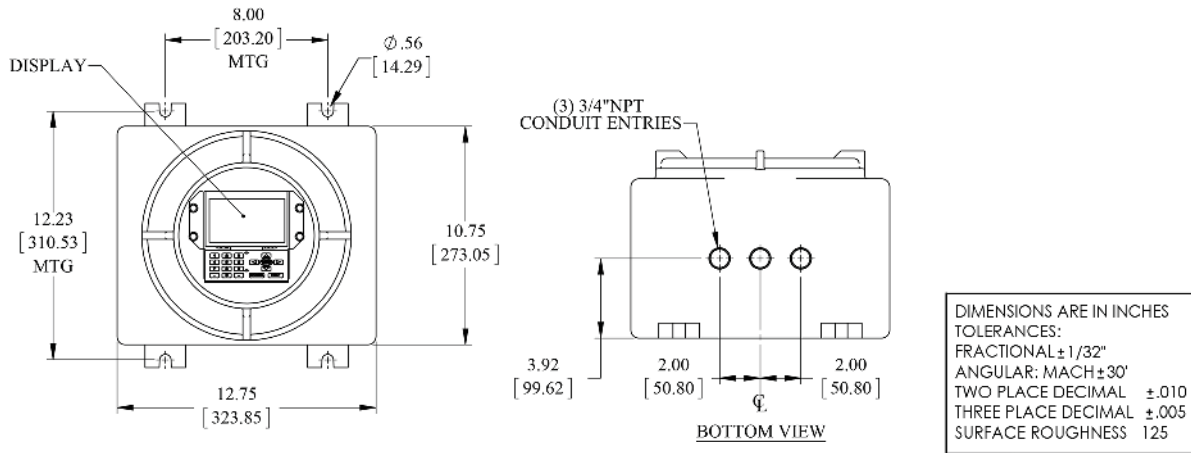
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STANDARD SENSOR ENCLOSURE



AMEVision



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