

## PRODUCT DATA SHEET

# WDG-VCM Flue Gas Oxygen, Combustibles & Hydrocarbon Analyzer

## Safe operation of the burner management system

The WDG-VCM provides an additional layer of safety when measuring excess oxygen (O<sub>2</sub>), combustibles (COe), and methane (CH<sub>4</sub>) in the burner management system. It has a close-coupled extractive design for fast response in a wide range of flue gas applications up to 1648°C (3000°F).

### Reliability

The WDG-VCM is designed with measurement redundancy and continual diagnostic functions that validate the health of the analyzer and validate the proper combustion measurements.

### Safety

Onboard diagnostics provide low probability of undetected analyzer faults. Communication through Modbus RTU or Fast Ethernet allows remote communication for diagnostics, calibration, verification, and error notification for the safety system.

### Maintenance

Completely field serviceable. Ethernet connection allows remote performance monitoring for maintenance LANs or Asset Management Systems (AMS).



## KEY BENEFITS

- Internal flow sensor for probe tip to exhaust port sample system confidence
- Accurate combustibles (COe) and hydrocarbon monitoring
- Versatility in flange mounting options and digital communications and data management

## APPLICATIONS

- Process heaters
- Steam boilers
- Thermal oxidizers

## KEY MARKETS

- Refining and petrochemical
- Power and steam generation
- Furnace and kilns

## PERFORMANCE SPECIFICATIONS (Moisture applications)

<b>Principle of operation</b>	Zirconium oxide for net O <sub>2</sub> measurement and dual hot-wire catalytic detectors for both CO <sub>e</sub> and CH <sub>4</sub>
<b>Output range</b>	O <sub>2</sub> : From 0-1 to 0-100% CO <sub>e</sub> : 0-500 ppm to 0-10,000 ppm, 0-2 to 0-5% Hydrocarbon: 0-5%
<b>Accuracy</b>	O <sub>2</sub> : ±0.75% of measured value or ±0.05%, whichever is greater CO <sub>e</sub> : ±2% of full scale output range Hydrocarbon: ±5% of full scale output range
<b>Response</b>	Response to calibration gas: Less than three seconds
<b>Aspirator air requirements</b>	Three SCFH typical at 3 to 6 psig, instrument air or nitrogen
<b>Analog output</b>	Three isolated linear current outputs for O <sub>2</sub> , CO <sub>e</sub> and hydrocarbons. 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
<b>Alarms</b>	Five independent NO alarms. Set relays to energize or de-energize on alarm
<b>Contact rating</b>	0.5A, 30V, 10VA max. non-inductive load, AC or DC
<b>Digital communication</b>	Two-wire Modbus RTU, 57.6 KBAud
<b>Configuration</b>	Modbus RTU, AMETEK configuration software, HART, or AMEVision HMI
<b>Diagnostics</b>	Low sample flow, cell & detector age tracking, cell resistance, calibration required Analog current verification
<b>Sample pressure</b>	±6 in. water gauge
<b>Max. sample dewpoint</b>	200°C (392°F)
<b>Max. flue gas temperature/ probe type/lengths</b>	704°C (1300°F)/316 SS/910 to 2740 mm (36 to 108 in.) 1024°C (1875°F)/310 SS/910 to 2740 mm (36 to 108 in.) 1648°C (3000°F)/Hexoloy®/600 to 1820 mm (24 to 72 in.)
<b>Environment</b>	Ambient temperature: -30 to 65°C (-22 to 149°F) Relative humidity: 5 to 95%, non-condensing
<b>Power requirements</b>	115 VAC, ±10%, 47-63 Hz, 740 VA max.; 230 VAC, ±10%, 47-63 Hz, 740 VA max.
<b>Enclosure</b>	Hinged IP65 (NEMA 4X), weather-resistant, stainless steel. Purged, remote mount and floor mount versions available UL Class I, Div II, Gp B, C, D or ATEX II 3G Ex pz IIC T3 Gc and IECEx, T3 with purge

## SALES, SERVICE &amp; MANUFACTURING

**USA - Pennsylvania**

150 Freeport Road  
Pittsburgh PA 15238  
Tel: +1 412 828 9040  
Fax: +1 412 826 0399

**USA - Delaware**

455 Corporate Blvd.  
Newark DE 19702  
Tel: +1 302 456 4400  
Fax: +1 302 456 4444

**Canada - Alberta**

2876 Sunridge Way NE  
Calgary AB T1Y 7H9  
Tel: +1 403 235 8400  
Fax: +1 403 248 3550

## WORLDWIDE SALES AND SERVICE LOCATIONS

**USA**

Tel: +1 713 466 4900  
Fax: +1 713 849 1924

**Brazil**

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Tel: +33 1 30 68 89 20  
Fax: +33 1 30 68 89 99

**Germany**

Tel: +49 2159 9136 0  
Fax: +49 2159 9136 39

**India**

Tel: +91 80 6782 3200  
Fax: +91 80 6780 3232

**Singapore**

Tel: +65 6484 2388  
Fax: +65 6481 6588

**China**

Beijing  
Tel: +86 10 8526 2111  
Fax: +86 10 8526 2141  
Chengdu  
Tel: +86 28 8675 8111  
Fax: +86 28 8675 8141  
Shanghai  
Tel: +86 21 5868 5111  
Fax: +86 21 5866 0969



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