AMETEK®
PROCESS INSTRUMENTS

MEASURES: O_2, Combustibles (COe)

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_2), combustibles (COe), and methane (CH_4) 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)

Principle of operation	Zirconium oxide for net O_2 measurement and dual hot-wire catalytic detectors for both COe and CH_4
Output range	O_2: From 0-1 to 0-100% COe: 0-500 ppm to 0-10,000 ppm, 0-2 to 0-5% Hydrocarbon: 0-5%
Accuracy	O_2: ±0.75% of measured value or ±0.05%, whichever is greater COe: ±2% of full scale output range Hydrocarbon: ±5% of full scale output range
Response	Response to calibration gas: Less than three seconds
Aspirator air requirements	Three SCFH typical at 3 to 6 psig, instrument air or nitrogen
Analog output	Three isolated linear current outputs for O_2, COe 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
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	Two-wire Modbus RTU, 57.6 KBaud
Configuration	Modbus RTU, AMETEK configuration software, HART, or AMEVision HMI
Diagnostics	Low sample flow, cell & detector age tracking, cell resistance, calibration required Analog current verification
Sample pressure	±6 in. water gauge
Max. sample dewpoint	200°C (392°F)
Max. flue gas temperature/ probe type/lengths	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.)
Environment	Ambient temperature: -30 to 65°C (-22 to 149°F) Relative humidity: 5 to 95%, non-condensing
Power requirements	115 VAC, ±10%, 47-63 Hz, 740 VA max.; 230 VAC, ±10%, 47-63 Hz, 740 VA max.
Enclosure	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

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