AMETEK®
PROCESS INSTRUMENTS

MEASURES: O_2, COe

PRODUCT DATA SHEET

WDG-VC

Flue gas oxygen and combustibles analyzer

The WDG-VC has a close-coupled extractive design that allows for fast response in a wide range of flue gas applications up to 1648°C (3000°F).

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

Safety
SIL-2 approved, capable for use in SIS combustion safety systems. 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
This completely field-serviceable analyzer also has an Ethernet connection that 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) monitoring
- Versatility in flange mounting options, digital communications and data management
- Completely field-serviceable

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 oxygen (O_2) measurement and dual hot-wire catalytic detectors for COe
Output range	O_2: From 0-1% to 0-100% COe: 0-500 parts per million (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
Response	O_2: 90% of a step change < 11 seconds with Flame Arrestors COe: 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 (N_2)
Analog output	Three isolated linear current outputs for O_2, combustibles. 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 and 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
Enclosure	Hinged IP65 (NEMA 4X), weather-resistant, stainless steel, purged, and floor mount versions available. UL Class I, Div 2, Gp B, C, D or ATEX II 3G Ex pz IIC T3 Gc and IECEx Zone 2, T3 with purge
Power requirements	115 VAC, ±10%, 47-63 Hz, 740 VA max.; 230 VAC, ±10%, 47-63 Hz, 740 VA max

SALES, SERVICE & 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
Tel: +55 19 2107 4100

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