OMS420 Ex

O2 & COe in-situ monitoring system for use in hazardous area zone 2

IN-SITU real time analysis for
Oxygen (O2) and combustibles (COe)*

O2 COe

MRU AIR fair since 1984 ®
EMISSION MONITORING SYSTEMS

OMS420 Ex

The OMS 420 Ex - probe is used for continuous measurement of oxygen and combustible gas concentrations in flue gases up to 1.000 °C of various industrial furnaces/ovens/boilers, with hazard of explosive atmosphere at petroleum refineries, petrochemical plants and natural gas plants.

Measurement principle
Oxygen (O2) = ZrO2 zirconium dioxide
COe (combustibles) = heated solid electrolyte
* total of flue gas combustibles
(CO + H2 + CxHy)
displayed as equivalent CO

Until now, in-situ measurements, used to tune boilers , were limited to O2 only. The introduction of combus-tibles COe -measurements however, to be used simultaneously with O2-measurements, provides engineers an improved tool to lower excess air to previously unachieved levels. Lowering excess air means lowering fuel consumption, greater cost savings and reduced NOx

MAIN FEATURES

>> hazardous area designation of use: Zone 2 or Class 1, Div. 2, Gr C/D

>> special IP65 pressurized cabinet and z-purge controller, complying to Ex II 3G Ex pz II T3 Gc

>> unique hot solid electrolyte sensor for combustible COe - measurement without need for sample dilution with air as required for catalytic bead sensors (Pellistors)

>> easy and fast, on site replaceable detector head with sensors (O2 and COe)

>> unique blow-back system for dusty flue gases
integrated auto-calibration for accurate measurements (option)

>> integrated control unit with backlit display, operating key pad, dual galvanic isolated 4...20 mA output and digital output RS 485 (Modbus RTU)

>> stainless steel SS316Ti flange 4" ANSI-150 lbs. with flow guidance probe tubes, from 300 mm up to 2 m length

>> low energy consumption, no poisoning effects on sensors, stable in hot, wet and water saturated flue gases, dust tight and water proof enclosure, with optional ATEX heater for very low ambient air temperatures or ATEX Vortec cooler for high ambient temperatures

OMS420 Ex

TECHNICAL SPECIFICATIONS

DATA SUBJECT TO CHANGE WITHOUT NOTICE

	Gas	Range	Accuracy	Method
Measured component	O2	0 … 25%	0.2% abs.	zirconium dioxide
	COe	0 … 1,000ppm	+/- 5% full scale	hot solid electrolyte
Zero drift	< 0,2 % of range per month, negligible with auto-zero			
Span drift	< 0,2 % of range per month, negligible with auto-zero			
Linearity	< 1 % FS			
Warm up time	Minimum 30 minutes			
Response time	< 10 seconds			
Process conditions				
Temperature	up to 1,832°F (1,000 ° C)			
Pressure	361 inH2O to 441 inH2O (900 to 1.100 mbar)			
Flow velocity	min. 1 m/sec to max. 30 m/sec			
Probe connection	flange 4" ANSI-150 lbs., stainless steel 1.316Ti			
Probe tube length	11.81" to 78.81" (300 mm to 2,000 mm), Inconel steel			
Calibration	Manual or automatic (user free settable) 1 point (offset) or 2 points (offset and span)			
HMI Human Machine Interface	Graphical, backlit display Keyboard and password protected operation Dual, analog output 4...20 mA, isolated, max. load 500R RS 485 digital interface (Modbus RTU) DIN-rail RS 485/Profibus converter			
Ex classification	**Ex** II 3G Ex pz II T3 Gc			
Cabinet	Glass fiber reinforced PE with grey, conductive painting			
Dimensions	25.58" x 19.68" x 13.77" (650 x 500 x 350 mm) (H x W x D)			
Weight / Protection	55lbs. (25 kg) / IP 65			
Ambient temperature	41°F … 113°F (+5 °C ... +45 °C) (149°F (+65 °C) with ATEX Vortec cooler) -49°F … 113°F (-45°C ... +45 °C) with cabinet heater			
Operating requirements				
Electric power supply	100...240 Vac / 47...63 Hz / 100 W or 300 W with cabinet heater			
Compressed air	87 … 116 psi (6...8 bar), free of dust, oil and water (DP -4°F (-20°C) or less)			

MRU Instruments, Inc.
Houston, Texas 77044
Tel.: (832) 230 - 0155
Fax: (832) 230 - 1553
info@mru-instruments.com
www.mru-instruments.com

MRU AIR fair since 1984 ®
EMISSION MONITORING SYSTEMS