

MOD 500

TUNABLE DIODE LASER GAS ANALYZER

Modcon Systems its MOD 500 is a novel Tunable Diode Laser (TDL) gas analyzer for detection of **oxygen, carbon monoxide** and **water vapor** in chimneys, stack, flue gasses, and in gaseous process streams.

Features and Benefits of the MOD 500

“All in One ” TDL gas analyzer

The laser transmitter and detector are all incorporated in an “all in one” device .

Easy to install — No need for separate installation of laser transmitter and detector. **No need for alignment** and realignment of laser and detector

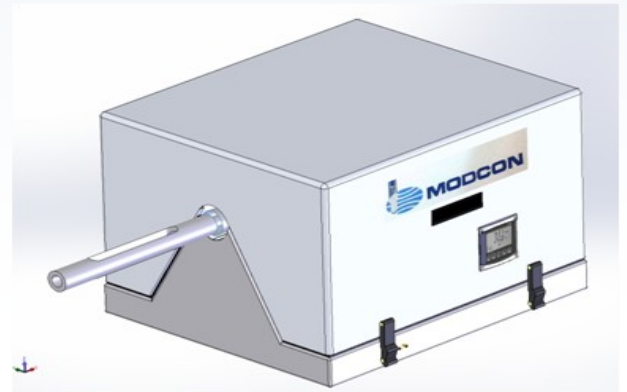
Low Cost of Ownership and Maintenance

Ruggedness and long term stability in harshest environments

Low Temperature Operations Applicable in very cold areas, from -50 °C

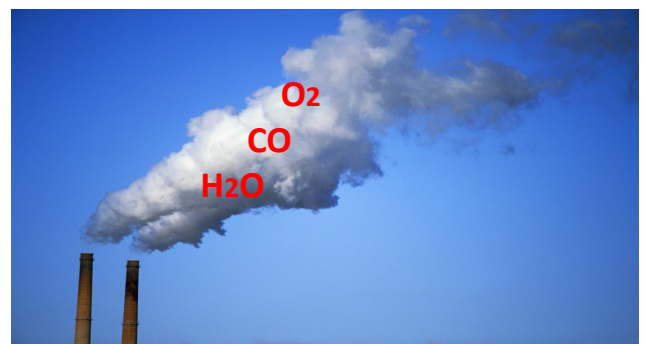
Reliability - Direct Measurements in gas streams, or where gas are produced gives highest reliability and fastest response.

Applicable in blanketing operations



MOD 500 IMPLEMENTATIONS

- **COMBUSTION CONTROL**—
Furnaces , Incinerators, Flue Gas, Stacks, refineries, FCC, Flue gas, Stacks,
- **FLARE SAFETY CONTROL**
- **PROCESS CONTROL**
- **ENVIRONMENTAL and COMBUSTION SAFETY CONTROL**
- **ESP FILTER PROTECTION**
- **VENT HEADERS**
- **VAPOR CONTROL**



TECHNICAL SPECIFICATIONS

GAS	O ₂	CO	H ₂ O
Effective Pathlength (PL)	Probes: 100, 200, 400 mm Wafer Cell: 50, 80,100 mm	Probes: 100, 200, 400 mm Wafer Cell: 50, 80,100 mm	Probes: 100, 200, 400 mm Wafer Cell: 50, 80,100 mm
Measurement Range and standard conditions (Ambient P and T, 1 m PL)	0—100 %	0—2 %	0—20 %
Lower Detection Limit (Ambient P and T. dry, no dust, N ₂ , 1m PL)	100 ppm-v	1 ppm-v	5 ppm-v
Accuracy (Greatest Value of:)	2 % of reading or 100 ppm O ₂	2 % of reading or 1 ppm	2 % of reading or 10 ppm
Linearity	Better then 1 %	Better then 1 %	Better then 1 %
Resolution	<0.01% volO ₂ , (100ppm-v)	1 ppm-v	5 ppm-v
Drift	Negligible (< 2 % of measurement between maintenance intervals		
Sampling Rate	1 second	1 second	1 second
Response Time (T90)	O ₂ in N ₂ 21% > 0 %in < 2 sec	CO in N ₂ 300ppm-v to 0 %in < 4 sec	H ₂ O in N ₂ 1% to 0 %in < 4 sec
Repeatability (Greatest Value Of)	±0.25% of reading or 0.05 % O ₂	±0.25% of reading or 0.05 % CO	±0.25% of reading or 50 ppm-v O ₂
Process Pressure Range	0.8-5 bar (abs)	0.8-2 bar (abs)	0.8-2 bar (abs)
Process temperature range	Standard Version: Up to + 250 °C, Extended Version:		Up to + 600 °C
Operating Conditions (temp)	Outside operating conditions from -50 to + 55 °C		



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