LaserTrace 2.5 H_2O
LaserTrace 2.5 O_2
Ultra-High Purity Gas Analyzers

GASES & CHEMICALS | CEMS | ENERGY | ATMOSPHERIC | SEMI & HB LED | SYNGAS | LABORATORY

Designed for trace level contamination analysis, the LaserTrace 2.5 H_2O and O_2 analyzers offer:

- Industry-leading parts-per-trillion detection capability
- Unprecedented speed of response
- Wide dynamic range
- Absolute measurement (freedom from calibration gases)
- Flexibility: up to four measurement points per electronics module
- Extremely low Cost of Ownership
- Electronics module compatible with existing LaserTrace sensor modules

Delivering your best measurement

Detect gas quality upsets before they can damage your processes. Using Tiger Optics' LaserTrace 2.5 H_2O and O_2 analyzers, you can verify moisture and oxygen impurity levels with part-per-trillion accuracy, drift-free stability, and virtually immediate response. You'll find our system exceptionally easy and fast to install, and effortless to maintain, with built-in zero verification. It measures in bulk gases, specialty gases, and gas mixtures. And its robust design – free of moving parts – results in an analyzer that has a high Mean Time Between Failure (MTBF) rate and a very low Cost of Ownership (CoO).

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Performance	
Operating range	See table below
Detection limit (LDL,	See table below
24 h peak-to-peak variation)	
Sensitivity (3σ)	See table below
Precision (1σ, greater of)	± 0.75% or 1/3 of Sensitivity
Accuracy (greater of)	± 4% or 1/2 of LDL
Speed of response	< 3 minutes to 95%
Environmental conditions	10°C – 40°C
	30% – 80% RH (non-condensing)
Storage temperature	-10°C – 50°C

Dimensions	H x W x D [in (mm)]
Electronics unit	14 x 19 x 14 (356 x 483 x 356)
H_2O sensor	7 x 4.75 x 27 (178 x 121 x 686)
O_2 sensor (rackmount only)	8.75 x 19 x 27 (222 x 483 x 686)
Sensor rack	8.75 x 19 x 27 (222 x 483 x 686)
(fits 4 H_2O sensors or 1 H_2O and 1 O_2 sensor)	
Weight	
Electronics unit	32 lbs (14.5 kg)
H_2O sensor	38 lbs (17.2 kg)
O_2 sensor	60.5 lbs (27.5 kg)

Gas Handling System and Conditions	
Wetted materials	316L stainless steel
	(optional Hastelloy©)
	10 Ra surface finish
Gas connections	1/4" male VCR inlet and outlet
Leak tested to	1 x 10^{-9} mbar l / sec
Inlet pressure	10 – 125 psig (1.7 – 9.6 bara)
Flow rate	0.5 to 1.8 slpm (gas dependent)
Sample gases	Most inert, toxic, passive
	and corrosive matrices
Gas temperature	Up to 60°C

Electrical	
Alarm indicators	User programmable setpoints
	(1 per sensor)
	Form C relays
Power requirements	90 – 240 VAC, 50/60 Hz
Power consumption	200 Watts max.
Signal output	Isolated 4–20 mA per sensor
User interfaces	10.4" LCD touchscreen
	PS/2 for mouse and keyboard
	10/100 Base-T Ethernet
	2 USB ports, RS-232

Performance:	Trace H_2O			Trace O_2†		
	Range	LDL*	Sensitivity	Range	LDL*	Sensitivity
In Nitrogen	0 – 5 ppm	500 ppt	400 ppt	0 – 2.5 ppm	250 ppt	200 ppt
In Helium	0 – 1 ppm	200 ppt	100 ppt	0 – 0.5 ppm	100 ppt	50 ppt
In Argon	0 – 2 ppm	220 ppt	180 ppt	0 – 1 ppm	110 ppt	90 ppt
In Hydrogen	0 – 4 ppm	400 ppt	300 ppt	0 – 2 ppm	200 ppt	150 ppt
In Oxygen	0 – 2.5 ppm	250 ppt	200 ppt		N/A	
In CO_2	0 – 10 ppm	1000 ppt	800 ppt	0 – 5 ppm	1000 ppt	400 ppt

* LDL is dependent upon the quality of the sample gas and the integrity of the sampling system
† H_2 supply required (except for detection in hydrogen)
Contact us for additional analytes and matrices. • Vacuum source required for some applications
U.S. Patent # 7,277,177 • U.S. Patent # 7,255,836

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