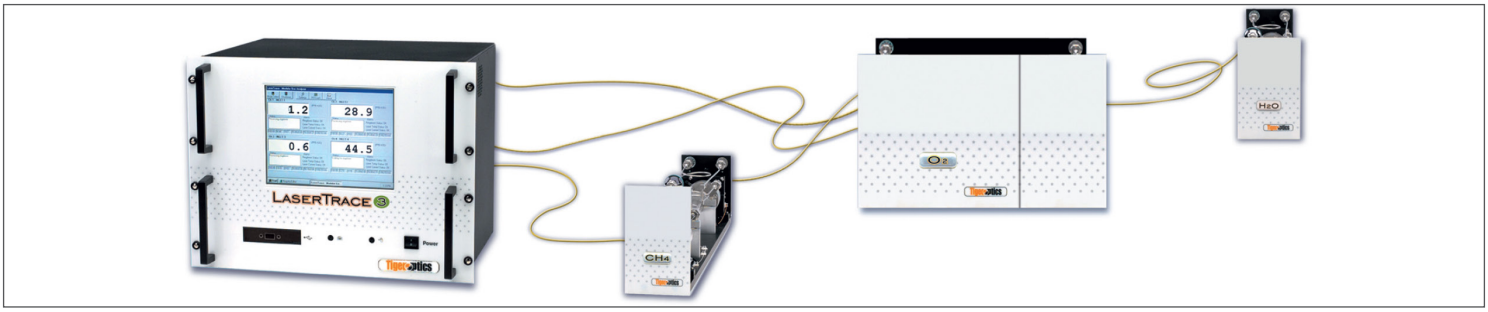

LaserTrace 3 H_2O
LaserTrace 3 O_2
Ultra-High Purity Gas Analyzers

GASES & CHEMICALS | CEMS | ENERGY | SEMI & HB LED | ATMOSPHERIC | LAB & LIFE SCIENCE

Designed for trace level contamination analysis, the LaserTrace 3 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 3 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).

Tiger Optics
A Process Insights Company

LaserTrace 3 H_2O
LaserTrace 3 O_2
Ultra-High Purity Gas Analyzers

Winner Golden Gas Award

Tiger Optics' LaserTrace 3 is *Gases & Instrumentation's* 2012 Golden Gas Award Winner, in recognition of its technological innovativeness, superior specifications, cost benefits and other quality considerations as determined by independent industry experts.

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

Gas Handling System and Conditions	
Wetted materials	316L stainless steel
	(corrosive gas version optional)
	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

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)

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* (3σ)	Precision @ zero	Range	LDL* (3σ)	Precision @ zero
In Nitrogen	0 – 5 ppm	200 ppt	70 ppt	0 – 2.5 ppm	100 ppt	40 ppt
In Helium	0 – 1 ppm	100 ppt	17 ppt	0 – 0.5 ppm	50 ppt	9 ppt
In Argon	0 – 2 ppm	100 ppt	30 ppt	0 – 1 ppm	50 ppt	17 ppt
In Hydrogen	0 – 4 ppm	150 ppt	50 ppt	0 – 2 ppm	75 ppt	25 ppt
In Oxygen	0 – 2.5 ppm	100 ppt	40 ppt		N/A	
In Clean Dry Air (CDA)	0 – 4.5 ppm	180 ppt	60 ppt		N/A	
In CO_2	0 – 10 ppm	800 ppt	300 ppt	0 – 5 ppm‡	5000 ppt‡	300 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)
‡Special configuration required, must be specified at time of order
Contact us for additional analytes and matrices.
U.S. Patent # 7,277,177 · U.S. Patent # 7,255,836

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2/2020