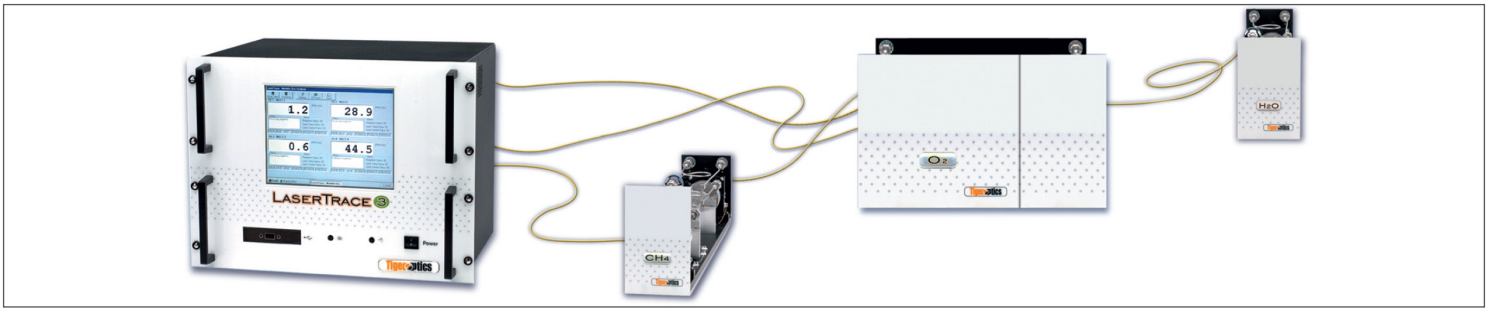

LaserTrace 3 CH_4

Trace Level Methane Analyzer

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

Designed for trace level methane analysis, the LaserTrace 3 CH_4 offers:

- 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, you can verify 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. The LaserTrace 3 CH_4 sensor detects trace methane to measurements ensure gases meet specifications or to alarm when critical processes are at risk, such as in silicon crystal manufacturing, where methane can alter wafer electrical properties. 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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LaserTrace 3 CH_4
Trace Level Methane Analyzer

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,	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)	± 3% or 1/2 of LDL
Speed of response	< 1 minute to 95%
Environmental conditions	10°C – 40°C
	30% – 80% RH (non-condensing)
Storage temperature	-10°C – 50°C

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	30 – 125 psig (3.1 – 9.6 bara)
Flow rate	0.9 to 3.9 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)
Standard sensor	7 x 4.75 x 27 (178 x 121 x 686)
Sensor rack	8.75 x 19 x 27 (222 x 483 x 686)
(fits up to 4 standard sensors)	

Weight	
Electronics unit	32 lbs (14.5 kg)
Standard sensor	38 lbs (17.2 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: CH_4	Range	LDL	Sensitivity
In Nitrogen	0 – 8 ppm	1.0 ppb	0.8 ppb
In Helium	0 – 5 ppm	0.7 ppb	0.5 ppb
In Argon	0 – 7 ppm	0.9 ppb	0.7 ppb
In Hydrogen	0 – 8 ppm	1.0 ppb	0.8 ppb
In Oxygen	0 – 5 ppm	0.7 ppb	0.5 ppb

Contact us for additional analytes and matrices.
U.S. Patent # 7,277,177

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