Prismatic™ 2
Multi-Species Gas Analyzer

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

The Prismatic™ 2 features:

- Simultaneous detection of up to four species
- Wide dynamic range
- No calibration required
- Low Cost of Ownership
- Easy to use and install all-in-one solution

With the Prismatic™ 2 laser-based, multi-species trace gas analyzer, Tiger Optics takes a quantum leap forward. With a combined electronics and sensor module that can simultaneously measures multiple analytes in a wide variety of background gases, the Prismatic™ 2 offers precise analysis over a vast dynamic range. You can select multiple species of interest from a sizable and growing detection list, including CH_4, H_2O, CO, CO_2, N_2O, NH_3 and H_2S.

The Prismatic™ 2 provides a critical tool for use in a variety of applications in both research and industrial settings where continuous, on-line gas monitoring is essential. The ability to measure from parts-per-million to parts-per-trillion of multiple analytes enables extensive research in gaseous applications at laboratories, from national metrology institutes to fuel-cell hydrogen QC labs.

Our proven CRDS technology offers absolute accuracy, with no external calibration required. Our customers worldwide prize our instruments for their precision, stability, exceptionally low Cost of Ownership, vast dynamic range, rapid speed of response and ease of use & installation, among other attributes. By providing an affordable, yet highly sensitive means to measure multiple trace species in gases, the Prismatic™ 2 offers a compelling choice for many gas analysis applications.

Tiger Optics
A Process Insights Company

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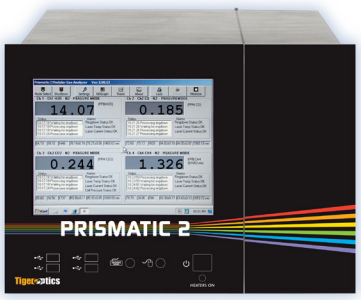

Performance	
Operating range	See table on next page
Detection limit (LDL, 3σ/24h)	See table on next page
Precision (1σ, greater of)	± 0.5% or 1/3 of LDL
Accuracy (greater of)	± 4% or LDL
Speed of response	< 5 minutes to 95%
	(in 4-channel operation)
Environmental conditions	10°C to 40°C
	30% to 80% RH (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	< 1 slpm (gas dependent)
Sample gases	Inert gases, hydrogen and oxygen
Gas temperature	Up to 60°C

Dimensions	H x W x D [in (mm)]
Electronics unit and sensor	12.25 x 17.50 x 29.65
	(311 x 445 x 753)
Weight	
Standard sensor	70.5 lbs (32.0 kg)
Electrical	
Alarm indicators	User programmable setpoints
	(1 per channel), Form C relays
Power requirements	90 – 240 VAC, 50/60 Hz
Power consumption	400 Watts max.
Signal output	0–5 VDC analog
	Isolated 0–20 mA or 4–20 mA
User interfaces	10.4" LCD touchscreen
	PS/2 mouse and keyboard
	10/100 Base-T Ethernet
	4 USB ports, RS-232

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Performance in N_2 or CDA:	Range	LDL (3σ)	Precision (1σ) @ zero
Methane (CH_4)	0 – 10 ppm	0.75 ppb	0.25 ppb
Ammonia (NH_3)	0 – 15 ppm	1.1 ppb	0.4 ppb
Moisture (H_2O)	0 – 50 ppm	5 ppb	2 ppb
Hydrogen Sulfide (H_2S)	0 – 500 ppm	40 ppb	15 ppb
Carbon Monoxide (CO)	0 – 1000 ppm	150 ppb	50 ppb
Carbon Dioxide (CO_2)	0 – 2000 ppm	200 ppb	70 ppb
Nitrous Oxide (N_2O)	0 – 1000 ppm	250 ppb	90 ppb

Performance in He:	Range	LDL (3σ)	Precision (1σ) @ zero
Methane (CH_4)	0 – 6 ppm	0.5 ppb	0.2 ppb
Moisture (H_2O)	0 – 10 ppm	1.0 ppb	0.4 ppb
Carbon Monoxide (CO)	0 – 800 ppm	130 ppb	45 ppb
Carbon Dioxide (CO_2)	0 – 1600 ppm	170 ppb	60 ppb

Performance in Ar:	Range	LDL (3σ)	Precision (1σ) @ zero
Methane (CH_4)	0 – 9 ppm	0.7 ppb	0.25 ppb
Moisture (H_2O)	0 – 20 ppm	2.0 ppb	0.7 ppb
Carbon Monoxide (CO)	0 – 800 ppm	120 ppb	40 ppb
Carbon Dioxide (CO_2)	0 – 1600 ppm	160 ppb	55 ppb

Performance in O_2:	Range	LDL (3σ)	Precision (1σ) @ zero
Methane (CH_4)	0 – 9 ppm	0.7 ppb	0.25 ppb
Moisture (H_2O)	0 – 25 ppm	3 ppb	1.0 ppb
Carbon Monoxide (CO)	0 – 800 ppm	130 ppb	45 ppb
Carbon Dioxide (CO_2)	0 – 1700 ppm	170 ppb	60 ppb

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Performance in H_2:*	Range	LDL (3σ)	Precision (1σ) @ zero
Methane (CH_4)	0 – 10 ppm	0.75 ppb	0.25 ppb
Ammonia (NH_3)	0 – 6 ppm	0.8 ppb	0.3 ppb
Moisture (H_2O)	0 – 50 ppm	5 ppb	2 ppb
Hydrogen Sulfide (H_2S)	0 – 500 ppm	40 ppb	15 ppb
Carbon Monoxide (CO)	0 – 1200 ppm	190 ppb	65 ppb
Carbon Dioxide (CO_2)	0 – 3000 ppm	320 ppb	110 ppb

*For more information on fuel cell hydrogen applications see our special brochure **Advanced Spectroscopic Solutions for Fuel-Cell Hydrogen Analysis**

Contact us for additional analytes and matrices.
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