



T-I Max AIR CH₂O

Trace Formaldehyde Monitor for Ambient Air Applications

GASES & CHEMICALS

CEMS

ENERGY

SEMI & HB LED

ATMOSPHERIC

LAB & LIFE SCIENCE

Designed for formaldehyde analysis in laboratory, process, indoor and outdoor air quality applications, the T-I Max AIR CH₂O offers:

- Accuracy traceable to the world's major reference labs
- Freedom from the need for span calibrations
- No periodic sensor replacement or maintenance
- 10 ppb detection limit in ambient air
- Wide dynamic range and no drift
- Fast response

Advancing Accurate, Consistent & Drift-Free CH₂O Measurements

Formaldehyde (CH₂O) is a known human carcinogen and as such, the accurate and effective measurement of this pollutant in our environment is critical. Indoors, formaldehyde is present in many man-made materials such as pressed wood products, carpets, and adhesives. We are also exposed to formaldehyde when using modes of transport powered by the combustion of fossil fuels.

Tiger Optics delivers a powerful analytical tool for the measurement of trace CH₂O for diverse applications. Based on powerful Cavity Ring-Down Spectroscopy (CRDS), with a proprietary laser-locked cell, the T-I Max is free of drift, guaranteeing consistent and reliable trace CH₂O detection in ambient air. Highly specific to the target molecule,

CRDS also prevents cross-interferences from distorting your measurement. Plus, there is no need to perform costly and time-consuming zero and span calibrations, saving both time and money with continuous, on-line service. The T-I Max AIR CH₂O gives you unsurpassed speed of response and ease of use.

In sum, the T-I Max AIR CH₂O analyzer serves a range of applications where trace gas measurement is extremely critical, such as indoor and outdoor air quality monitoring, assessing outgassing from building materials, and optimization of vehicle powertrains. The T-I Max AIR CH₂O builds on Tiger Optics longstanding leadership for trace monitoring of critical compounds.

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Performance		Dimensions	H x W x D [in (mm)]
Operating range	See table below	Standard sensor	8.73 x 8.57 x 23.6 (222 x 218 x 599)
Detection limit (LDL, 3σ/24h)	See table below	Sensor rack	8.73 x 19.0 x 23.6 (222 x 483 x 599)
Precision (1σ, greater of)	± 0.75% or 1/3 of LDL	(fits up to two sensors)	
Accuracy (greater of)	± 4% or LDL	Weight	
Speed of response	3 minutes to 95%	Standard sensor	33 lbs (15 kg)
Environmental conditions	10°C to 40°C 30% to 80% RH (non-condensing)	Electrical and Interfaces	
Storage temperature	-10°C to 50°C	Platform	Max series analyzer
Gas Handling System and Conditions*		Alarm indicators	2 user programmable 1 system fault
Wetted materials	316L stainless steel 10 Ra surface finish		Form C relays
Gas connections	1/4" male VCR inlet and outlet (1/4" Swagelok® adapters included)	Power requirements	90 – 240 VAC, 50/60 Hz
Inlet pressure	0 – 10 psig	Power consumption	40 Watts max.
Outlet pressure	Vacuum (<10 Torr)	Signal output	Isolated 4–20 mA
Flow rate	~2 slpm max.	User interfaces	5.7" LCD touchscreen 10/100 Base-T Ethernet
Sample gases	Ambient air & inert gases		USB, RS-232, RS-485 Modbus TCP (optional)
Gas temperature	Up to 60°C	Data storage	Internal or external flash drive
		Certification	CE Mark

Performance, CH ₂ O:	Range	LDL (3σ)	Precision (1σ) @ zero
In Ambient Air	0 – 100 ppm	10 ppb	3.5 ppb
In Nitrogen	0 – 100 ppm	10 ppb	3.5 ppb
In Clean Dry Air (CDA)	0 – 100 ppm	10 ppb	3.5 ppb

*Oil-free vacuum source required, <10 Torr ultimate vacuum, >1 m³/h pumping speed
U.S. Patent # 7,277,177

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