T-I Max AIR CH_2O
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 CH_2O 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 CH_2O Measurements

Formaldehyde (CH_2O) 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 CH_2O 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 CH_2O 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 CH_2O gives you unsurpassed speed of response and ease of use.

In sum, the T-I Max AIR CH_2O 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 CH_2O builds on Tiger Optics longstanding leadership for trace monitoring of critical compounds.

Tiger Optics
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T-I Max AIR CH_2O

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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)	± 4% 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
	10 Ra surface finish
Gas connections	1/4" male VCR inlet and outlet
	(1/4" Swagelok® adapters included)
Inlet pressure	0 – 10 psig
Outlet pressure	Vacuum (<10 Torr)
Flow rate	~2 slpm max.
Sample gases	Ambient air & inert gases
Gas temperature	Up to 60°C

Dimensions	H x W x D [in (mm)]
Standard sensor	8.73 x 8.57 x 23.6 (222 x 218 x 599)
Sensor rack	8.73 x 19.0 x 23.6 (222 x 483 x 599)
(fits up to two sensors)	

Weight	
Standard sensor	33 lbs (15 kg)

Electrical and Interfaces	
Platform	Max series analyzer
Alarm indicators	2 user programmable
	1 system fault
	Form C relays
Power requirements	90 – 240 VAC, 50/60 Hz
Power consumption	40 Watts max.
Signal output	Isolated 4–20 mA
User interfaces	5.7" LCD touchscreen
	10/100 Base-T Ethernet
	USB, RS-232, RS-485
	Modbus TCP (optional)
Data storage	Internal or external flash drive
Certification	CE Mark

Performance, CH_2O:	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 m^3/h pumping speed
U.S. Patent # 7,277,177

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