



Tiger-i 2000 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, and indoor air quality applications, as well as the detection of Airborne Molecular Contaminants (AMCs), the Tiger-i 2000 CH₂O offers:

- Accuracy traceable to the world's major reference labs
- Freedom from the need for span calibrations
- No periodic sensor replacement/maintenance
- 12 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 Tiger-i 2000 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 Tiger-i 2000 CH₂O gives you unsurpassed speed of response and ease of use.

In sum, the Tiger-i 2000 CH₂O analyzer serves a range of applications where trace gas measurement is extremely critical, such as indoor air quality monitoring, assessing outgassing from building materials, and optimization of vehicle powertrains. The Tiger-i 2000 CH₂O builds on Tiger Optics longstanding leadership for trace monitoring of critical compounds.

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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 min 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
Leak tested to	1 x 10 ⁻⁹ mbar l / sec
Inlet pressure	0 – 15 psig (1 – 2 bara)
Outlet pressure	Vacuum (<10 Torr)
Flow rate	1 slpm
Sample gases	Ambient air, dry air (CDA) or N ₂
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 (fits up to two sensors)	8.73 x 19.0 x 23.6 (222 x 483 x 599)

Weight	
Standard sensor	33 lbs (15 kg)

Electrical	
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 per sensor
User interfaces	5.7" LCD touchscreen 10/100 Base-T Ethernet 802.11g Wireless (optional) RS-232 Modbus TCP (optional)

Performance, CH ₂ O:	Range	LDL (3σ)	Precision (1σ) @ zero
In ambient air	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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