



CM4 toxic gas monitor, interference free and low maintenance of ownership solutions for the semiconductor, pharmaceutical and chemical industries

CM4 Toxic Gas Monitor

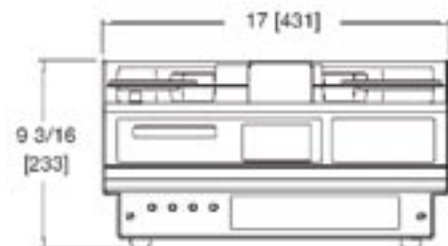
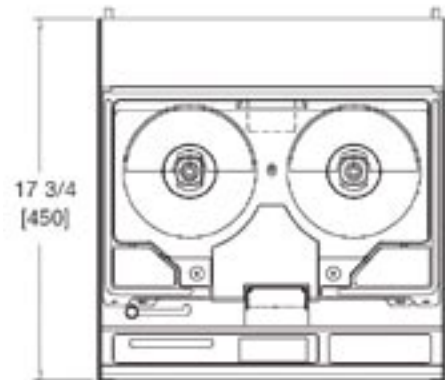


Features

- **Continuous Monitoring on 4 Points**
Total surveillance all the time
- **Chemcassette® Technology**
Reliable, interference-free method provides physical evidence of events
- **Analog and Serial Outputs**
Permits easy installation into virtually all annunciation and shutdown systems
- **300' (90m) Sampling Distance**
Monitors can be positioned conveniently with minimal fab intrusion
- **Table, Wall or Rack Mount Versions**
Flexible to meet any requirement
- **LonWorks® Interface Available**
Permits peer to peer communication and low cost of installation
- **Serial Printer Option**
Permits archiving of all important events and system configurations
- **Integral Audio and Visual Alarms**
Easily identifies all events

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This CM4 unit represents the latest in interference free, low maintenance, low cost of ownership solutions for the semiconductor, pharmaceutical and chemical industries. Its low profile 1/4" tubing minimizes intrusion into process areas, ducts, gas cabinets, etc. A variety of signal outputs are available making CM4 a truly flexible product. It easily installs into most building alarm systems. An optional rack mount enclosure and printer fill out the product range, providing convenient housing and documentation capability. The unit is capable of detecting over 25 gases-some within the same family (hydrides, mineral acids, etc.)



Inches [mm's]

Technical Specification



Substance	Response Time to TLV	Range
Amines		
Ammonia II (NH ₃)	10	3-75 ppm
Dimethyl Amine (DMA)	30	0.3-30 ppm
Tetrakis Dimethyl Amino Titanium (TDMAT)	30	0.1-7.5 ppm
Triethylamine (TEA)	10	0.3-35 ppm
Chlorine III (Cl₂)	20	0.05-5.0 ppm
Chlorine II (Cl₂) Low Level	20 @ 200 ppb	7-2000 ppb
Chlorine Dioxide (ClO₂)	50	30-1000 ppb
Fluorine (F₂)	30	0.6-10 ppm
Hydrazines		
Dimethyl Hydrazine (UDMH)	240	3-5000 ppb
Hydrazine (N ₂ H ₄)	60	0.7-1000 ppb
Hydrides		
Arsine (AsH ₃)	10	5-500 ppb
Arsine Dry (AsH ₃)	25	5-500 ppb
Arsine (AsH ₃) Low Level	11	0.3-25 ppb
Diborane (B ₂ H ₆)	30	15-1000 ppb
Germane (GeH ₄)	240	100-2000 ppb
Hydrogen Selenide (H ₂ Se)	35	6-500 ppb
Phosphine (PH ₃)	10	5-3000 ppb
Silane (SiH ₄)	25	0.5-50 ppm
Tertiary Butyl Arsine (TBA)	30	12-500 ppb
Hydrogen Cyanide (HCN)	15	0.5-50 ppm
Hydrogen Sulfide (H₂S)	10	0.5-100 ppm
Hydrogen Sulfide (H₂S) Low Level	30 @ 500 ppb	8-2000 ppb
Mineral Acids		
Boron Trifluoride (BF ₃) Low Level	80	100-1500 ppb
Hydrogen Bromide (HBr)	20	0.3-30 ppm
Hydrogen Bromide (HBr) Low Level	60 @ 500 ppb	50-2000 ppb
Hydrogen Chloride (HCl)	15	0.5-15 ppm
Hydrogen Chloride (HCl) Low Level	20 @ 500 ppb	80-8000 ppb
Hydrogen Fluoride (HF)	25	0.3-30 ppm
Hydrogen Iodide (HI)	20	0.1-25 ppm
Nitrogen Dioxide (NO₂)	15	0.3-30 ppm
Phosgene (COCl₂)	15	7-1000PPB

Nitrogen Trifluoride (NF₃) available, see separate datasheet on CM4-P

Technical Data Specifications

Detection Technique	Chemcassette Technology
Gases Available	See Chart left
Monitoring Points	Four
Sampling Distance	300 Ft (90m) 1/4" OD X 3/16" ID FEP grade Teflon® tubing only. (Consult your local HA agent for longer distance requirements.)
Exhaust Tubing	50 Ft (15m) 1/4" OD x 3/16" ID Polypropylene. Longer distances possible with larger ID exhaust tubing
Display	20 character vacuum fluorescent status, alarm, and power LEDs
Keypad	16 key, sealed membrane style
Local Alarm indication	Audible and visual (LED) per point
Relay Outputs	Relay contacts (500 mA minimum) 2 Amps @120VAC, form C contacts. Programmable low and high levels, maintenance, watch dog, energized or deenergized, latching or nonlatching
Current Loop Outputs (per Point)	4-20 mA isolated (optional) (2-4 mA range available for fault indicators)
Serial Output	RS232 serial printer output (optional)
Serial Communications	RS232, RS422, and RS485 (all optional)
Additional Protocols supported	LonWorks®, (LonMark® compliant optional) Profibus (via 4-20mA to L2 bus optional) ~ Supported Intellution, FIX 32, Wonderware, InTouch, Cimplicity
Operating Temperature	50° to 140°F (10° to 40°C)
Shipping Weight	55 lbs.
Operating Voltages	100/110 VAC @ 50/60 Hz, 230 VAC @ 50/60 Hz
Power Consumption	≈3 Amps @ 110 volts ≈2 Amps @ 230 volts

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Wonderware and InTouch are registered trademarks of Wonderware Corporation

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MDA Scientific has developed a sophisticated range of highly sensitive gas detection equipment, designed to perform in ways that define new gas detection performance levels. Providing total solutions to protect people, improve production efficiency and reduce costs.

The MDA Scientific range of toxic gas detection



Single Point Monitor

The SPM overcomes the difficulty of ensuring that basic units for toxic gas monitoring are accurate and free of interference from environmental conditions or other chemicals, by using our interference-free Chemcassette® detection technique. The SPM can also be used outdoors and has heating and cooling options to suit environmental conditions.



Vertex

Vertex provides a flexible, cost-effective monitoring solution that can adapt to changing needs. Using advanced Chemcassette® software and optics technologies, Vertex can monitor from 8 to 72 points of gas detection, up to 9 gas families and more than 40 gases.



Model IR-148

The Model IR-148 detects solvents and gases such as HCFCs, HFCs and PFCs that are otherwise difficult to monitor without the effect of cross-interfering gases.



Midas®

Midas® can measure virtually all the toxic and flammable gases found in manufacturing and storage applications. The range is in fact a universal transmitter design that differs significantly from the Lifeline II range which had separate passive, extractive and pyrolyzer variants with different footprints and performance characteristics.



CM4

CM4 provides monitoring of toxic gases at four locations, up to 300 feet away – detection of ppb levels of toxic gases at multiple points. Points are monitored continuously. Leaks are detected within seconds.

Find out more

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Chemcassette®

The Chemcassette® detection system is the heart of an MDA toxic gas monitoring system. Chemcassettes use a dry reagent medium to collect and analyze air to detect gas leaks. When the Chemcassette® is exposed to a target gas, it changes color in direct proportion to the concentration of gas present. MDA Scientific monitors read color intensity changes and determine the gas concentration by comparison to a known gas response pre-programmed into the instrument.