

MSA Chemgard® Series

Top-performance, cost-effective, photoacoustic infrared gas monitors



*Because every life has a **purpose...***

MSA Chemgard Series

Top-performance, cost-effective, photoacoustic infrared gas monitors

Application

The Chemgard Photoacoustic Infrared Gas Monitor Series with photoacoustic infrared (IR) sensing technology provides precise, low-cost, high-performance monitoring for many gases such as hydrocarbons, solvents, alcohols, CO₂, CO, and additional toxic gases.

Technology

The Chemgard Gas Monitor is extremely stable and highly selective to the gas of interest, and can operate for months with virtually no zero drift. This monitor offers detectability as low as 0.01 ppm for certain applications.

Description

3 enclosure styles allow for installation in explosion-proof, NEMA 4 or rack-mounted configurations.

- Chemgard Monitor NEMA 4 and rack-mount versions provide ease of use and maintenance, with only 4 front-panel pushbuttons for configuration.
- Explosion-proof model is easily configured using a 4-button, wireless IR transmitter that communicates through the front panel window.
- For most installations, gas monitoring begins after simply mounting the instrument, connecting the sample line and powering the unit.
- Instrument typically draws gas sample via internal pump, allowing unit to be mounted in convenient operator locations if areas to be monitored are inaccessible.

Features

- Photoacoustic infrared technology
- Easy to install, operate and maintain
- Operates over a wide temperature range
- Can be installed in numerous environments and configurations
- Easy-to-read display shows gas concentration(s) and alarms
- 3 alarm levels with relay output
- UL 2075 approval

Ranges

The Chemgard Series of photoacoustic infrared monitors are highly sensitive instruments available in many output ranges:

- 0-10 ppm
- 0-100 ppm
- 0-1000 ppm
- 0-1% by volume
- 0-10% by volume
- 0-100% by volume
- 0-100% LEL

The Chemgard Monitor is factory calibrated, ready to detect a specific gas in the range desired.

Cross-sensitivity to water vapor, a common concern with other types of infrared analyzers, does not occur with this instrument. Proprietary sensing technique determines a sample's amount of water vapor, then subtracts that amount from the gas reading, allowing for extremely stable gas readings and no sensitivity compromise.

Data Logging

- The Chemgard Monitor can log data, giving users access to date-stamped information on key events including gas readings, alarms and fault conditions.
- Gas readings can be logged as maximum or average readings over 15-minute or 1-hour time periods.
- Data is accessible through front panel display or RS-232 port.

Expandability

The Chemgard Monitor can be expanded to monitor up to 8 locations simply by adding the multipoint sequencer option.

The display indicates the monitored location and the corresponding gas concentration at each location.

Chemgard Monitor Versions



NEMA 4 Version

The NEMA 4 version in a rugged metal enclosure has UL 2075 approval, is dust- and water resistant and provides 4 sturdy, wall-mount tabs on the enclosure back for easy installation.

- 1-8 lines are easily accessed on the unit's bottom via standard threaded fittings.
- Electrical wiring access holes are provided on unit's right and left sides.
- NEMA 4 version is easy to use and maintain, with only 4 front panel pushbuttons for instrument configuration.



Rack-Mount Version

Rack-mount version in standard 19" configuration provides handles on both sides of front panel for easy cabinet extraction.

- Gas sample line(s) and wiring access are provided in rear of unit.
- Rack-mount version is easy to use and maintain, with only 4 front panel pushbuttons to for instrument configuration.



Explosion-Proof Version

The explosion-proof version is UL-listed and rated for Class I, Div. 1, Groups B, C, and D areas and comes with 4 wall-mount tabs on the back corners of the unit.

- Explosion-proof model is easily configured using 4-button, wireless IR transmitter that communicates through front panel window.
- Window allows for same convenient visual indication of gas concentration and alarm status that exists on additional versions.

All Versions

- Configure all user functions through front panel
- Monitor 1, 4 or 8 sampling points per instrument
- 3 system alarm levels with relays
- Normally energized trouble and alarm relays for fail-safe operation
- Signal outputs:
 - Sourcing 4-20 mA current output
 - 0-10 VDC signal output
 - RS-232
- Auxiliary input accepts a 4-20 mA analog current signal
- Audible alarm output for standard buzzer or user horn
- Switch connection resets alarms remotely

Other Options

- Heated enclosure for special applications
- Z-purged enclosure available for special applications
- Built-in auxiliary gas sensor (CO, O₂, etc.) available using auxiliary input
- Remote relay module provides 3 levels of alarm per monitoring point
- Remote display option

Ordering Information

Contact your MSA representative to discuss your Chemgard Photoacoustic Infrared Gas Monitor application.

Specifications

TYPICAL	Performance characteristics subject to change, depending upon gas to be monitored and full-scale range
FOR 0-1000 PPM RANGE	
ACCURACY	0-100 ppm \pm 2 ppm; 100-1000 ppm \pm 10% reading
LINEARITY	0-100 ppm linear, 100-1000 ppm \pm 2% of full scale
SENSITIVITY	2 ppm
RESOLUTION	1 ppm
REPRODUCIBILITY	\pm 2 ppm over 12 months at specified operating conditions
RESPONSE	Updated reading every 7 seconds
OPERATING TEMPERATURE	0-50° C, 32-122° F
TEMPERATURE EFFECT	\pm 0.3% per °C of reading
RELATIVE HUMIDITY	0-99% non-condensing - no effect on reading
SAMPLE FLOW RATE	1.5 liter/minute
MAXIMUM TOTAL TUBING LENGTH	150 feet with $\frac{1}{8}$ " ID 500 feet with $\frac{3}{16}$ " ID
OPERATING POWER REQUIREMENTS	120 VAC \pm 10% at 0.56 amps, or 240 VAC; \pm 10% at 0.3 amps
ALARM RELAYS	3 relays @ 8 amps resistive
APPROVALS	UL 2075
Physical Enclosure Information	
NEMA 4	
DIMENSIONS	18" H x 16" W x 15 $\frac{1}{4}$ " D
WEIGHT	40 lbs.
19" RACK-MOUNT	
DIMENSIONS	7" H x 17 $\frac{1}{2}$ " W x 15 $\frac{1}{4}$ " D
WEIGHT	19 lbs.
EXPLOSION-PROOF (XP)	
DIMENSIONS	19 $\frac{1}{2}$ " H x 19 $\frac{1}{2}$ " W x 9 $\frac{1}{2}$ " D
WEIGHT	100 lbs.

Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



ID 07-2033-MC / January 2014
© MSA 2014 Printed in U.S.A.

MSA Corporate Center
1000 Cranberry Woods Drive
Cranberry Township, PA 16066 USA
Phone 724-776-8600
www.MSAafety.com

U.S. Customer Service Center
Phone 1-800-MSA-INST
Fax 1-800-967-0398

MSA Canada
Phone 1-800-672-2222
Fax 1-800-967-0398

MSA Mexico
Phone 01 800 672 7222
Fax 52 - 44 2227 3943

MSA International
Phone 724-776-8626
Toll Free 1-800-672-7777
Fax 724-741-1559
Email msa.international@msafety.com

Offices and representatives worldwide
For further information: