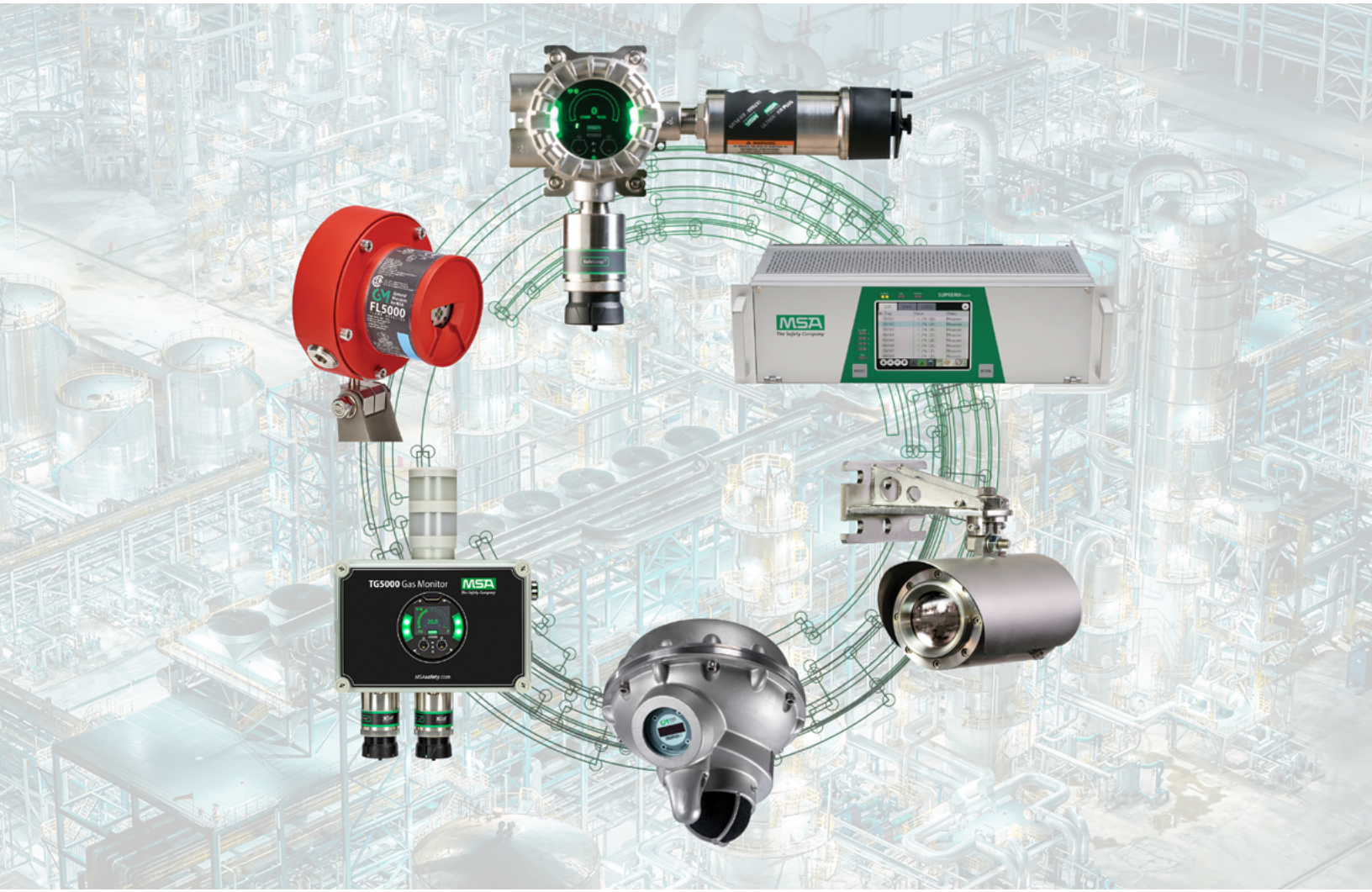
MSA
The Safety Company

Fixed Gas & Flame Detection

North America Product Range Overview



With more than 100 years of experience, MSA Safety delivers comprehensive safety solutions designed to help protect people, facilities, and the environment. MSA Safety develops and manufactures a comprehensive portfolio of fixed gas and flame detection (FGFD) technologies, integrating them into complete safety solutions.

Our proven expertise in gas and flame detection, combined with durable products and innovative technologies, helps enhance safety and support operational efficiency. MSA Safety offers an extensive range of sensing technologies for gas and flame detection, providing solutions that support worker safety, protect facilities, and help reduce overall cost of ownership.

SAFEGUARDING PEOPLE, PLACES & THE PLANET.

Selection Guide: The Right Gas Detector

	Product Type								
	ULTIMA X5000	S5000	PRIMAX IR	CHEMGARD	TG5000	TRIGAS	SENSCIENT ELDS	OPIR-5 / IR5500	OBSERVER-i
Detection Principle									
Catalytic combustion sensor	■	■			■	■			
Electrochemical sensor	■	■			■	■			
Semiconductor sensor		■							
Infrared Point detection	■	■	■		■	■			
Open Path detection							■	■	
Photoacoustic Infrared				■					
Ultrasonic									■
Units of Measure									
0–100% LEL	■	■	■	■	■	■			
% Volume		■		■		■			
0–5% LEL·m							■	■	
ppm	■	■		■	■	■			
ppm.m							■	■	
40–120 dB (u)									■
Detectable Gases									
Ammonia (NH_3)	■	■		■	■		■		■
Carbon Monoxide (CO)	■	■		■	■	■			
Carbon Dioxide (CO_2)	■			■	■		■		■
Chlorine (Cl_2)	■	■			■				
Chlorine Dioxide (ClO_2)	■	■			■				
Ethylene (C_2H_4)	■	■	■	■			■	■	■
Ethylene Oxide (EtO)	■	■		■					
Hydrocarbon Combustible Gases	■	■	■	■	■	■		■	■
Hydrogen (H_2)	■	■			■				■
Hydrogen Cyanide (HCN)	■	■							
Hydrogen Sulfide (H_2S)	■	■			■	■	■		
Hydrogen Chloride (HCl)	■	■					■		
Hydrogen Fluoride (HF)	■	■							
Methane (CH_4)	■	■	■	■	■	■	■	■	■
Nitrogen Oxide (NO)	■	■							
Nitrogen Dioxide (NO_2)	■	■			■				
Oxygen (O_2)	■	■			■	■			
Propane (C_3H_8)	■	■	■	■	■			■	■
Sulfur Dioxide (SO_2)	■	■			■				

See page 3 for Flame Detectors and page 6 for Controllers.

Explosion-Proof Detectors

ULTIMA® X5000 Gas Monitor

The ULTIMA X5000 Gas Monitor offers advanced technologies detecting oxygen, toxic, and combustible gases.

Key features:

- TruCal® simulated calibration technology extends manual calibration intervals up to 2 years for XCell® H_2S and CO sensors
- High visibility and intuitive display with full-word text available in 9 languages
- Tool-free operation with touch-enabled display
- Dual sensing and universal board design lowers project installation costs
- Bluetooth® application provides easy configuration for faster start-ups

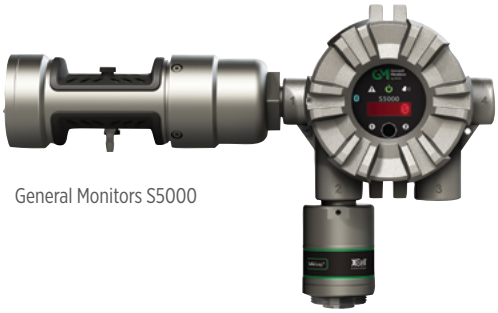
ULTIMA X5000

General Monitors® S5000 Gas Monitor

The S5000 Gas Monitor is the ultimate gas detector for extreme environments requiring detection of oxygen, toxic, and combustible gases.

Key features:

- Performs over a wide temperature range (-67°F / –55°C) to (+167°F / +75°C)
- TruCal simulated calibration technology extends manual calibration intervals up to 2 years for XCell H_2S and CO sensors
- Multiple communication options including HART, Modbus, Dual 4-20 mA (source or sink)
- Backwards compatible with select S4000TH and S4000CH sensors
- Bluetooth provides easy configuration with X/S Connect app



General Monitors S5000

Flame Detectors

General Monitors® FL5000 MSIR Flame Detector

- Advanced multi-spectrum infrared optical flame detector for hydrocarbon fires
- Enhanced Artificial Neural Network (ANN) technology for reliable discrimination between actual flames and false alarm sources
- FM performance approved for 22 fuel sources
- Detection range up to 310 ft (95 m)—ideal for outdoor applications
- HART and Modbus communication options
- Bluetooth for easy configuration and diagnostics via Flame Connect app

FL5000

General Monitors® FL500 UV/IR Flame Detector

- Ultraviolet/infrared flame detector detects hydrocarbon fires fast
- Seven fuel sources FM performance approved
- Wide field of view for greater fire detection coverage
- HART and Modbus communication options
- Hydrogen-specific flame detector also available

FL500

FL500-H2

Gas Detectors

TG5000 Gas Monitor

The TG5000 Gas Monitoring System is a general-purpose, self-contained solution designed to detect combustible gases, toxic gases, and oxygen deficiency or enrichment. The TG5000 features an all-in-one design that brings sensing, control, and alarm functions together to reduce installation complexity.

Key features:

- Organic LED (OLED) and bright status LEDs for extreme visibility
- Touch button interface for intuitive, tool-free user experience
- Breakthrough XCell TruCal gas sensors for H_2S and CO monitoring extends calibration periods for up to 2 years
- Bluetooth wireless technology to check status, modify settings, and more with the X/S Connect app
- Available as single or dual gas monitoring unit

TG5000

PrimaX® IR Gas Transmitter

The PrimaX IR Gas Transmitter is used for methane and propane gas applications.

Key features:

- Hydrocarbon detection in LEL
- Infrared dual source technology
- Redundant IR source provides enhanced reliability


PrimaX IR

Chemgard® Photoacoustic Infrared Gas Monitor

The stable, durable Chemgard Photoacoustic Infrared Gas Monitor is purpose-built and detects minute amounts of a wide variety of gases.

Key features:

- Precise, efficient, high-performance monitoring for many gases such as hydrocarbons, solvents, alcohols, CO_2, CO, and toxics
- Three different styles for flexible mounting options
- Unit can expand to monitor up to 8 locations with 3 levels of alarms
- Easy-to-read display

Chemgard

TriGas X5000/TriGas Flow Panel Gas Monitoring Systems

The TriGas X5000 and TriGas Flow Panel (TriGas Lite) monitoring systems are engineered product solutions to meet compliance to NFPA 820 in the Municipal Market. Primarily designed for wet-well monitoring associated with pumping and lift stations, these products are suitable for any plant monitoring application that requires a pumped system.

Key features:

- Three-sensor gas monitoring of combustible gas LEL, hydrogen sulfide (H_2S), and oxygen (O_2)
- Alarming relays
- SM5000 sample pump module with associated flow components
- NEMA 4X Stainless Steel enclosure with red strobe, 95dB buzzer, and power supply (TriGas X5000 System)


TriGas Flow Panel

TriGas

Odor Scrubber Monitoring System

The Odor Scrubber Monitoring System is a pre-engineered solution for monitoring hydrogen sulfide (H_2S) at strategic points before and after both wet or dry scrubbers or bio-filter systems in wastewater facilities. The system provides the user valuable real-time H_2S removal efficiency data that provides plant operations critical information for optimum control.

Key features:

- Ensures that scrubber system is working and meeting EPA requirements
- Indicates break-through for carbon bed scrubbers
- Controls chemical feeds for wet scrubbers
- Helps eliminate odor complaints from the community

Odor Scrubber Monitor

Open Path and Ultrasonic

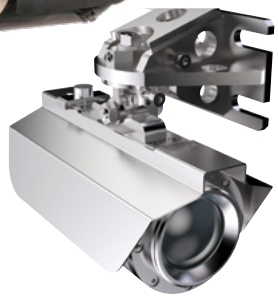
Senscient ELDS™ Open Path Gas Detector

A laser-based open path gas detector for the detection of toxic or flammable gases. Using a separate transmitter and receiver arrangement, it is certified for use in hazardous areas. Available for open area detection or ventilation air intakes.

Key features:

- Target gas specific—helps reduce false alarms
- Gases detected: ammonia, carbon dioxide, hydrogen chloride, hydrogen sulfide, ethylene, methane, sour gas (H_2S/Methane)
- Fast speed of response (<5 seconds)—fast initiation of safety actions
- SimuGas daily automatic self test—no routine manual testing
- Factory lifetime calibration—no routine recalibration required
- No consumable sensing elements—reduced operational cost
- FM performance-approved methane variant

Senscient ELDS



Senscient ELDS
FM Performance

General Monitors® IR5500 / OPIR-5 Open Path Infrared Gas Detector

The IR5500 / OPIR-5 Open Path Infrared Gas Detector provides continuous monitoring of flammable gases.

Key features:

- Sensitive to small (ppm.m) and large (LEL.m) gas leaks
- Ideal for harsh environments (-67°F / -55°C)
- Continuous self-check for fail-to-safe operation
- Multiple communication outputs (HART, Modbus, AMS support)

IR5500 / OPIR-5

General Monitors Observer® i Ultrasonic Gas Leak Detector

The Observer-i responds rapidly (<1 second (speed of sound)) to the airborne ultrasound generated from pressurized gas releases in open ventilated areas.

Key features:

- Artificial Neural Network (ANN) distinguishes real gas leak noise and suppresses false alarm sources
- Patented Senssonic™ self-test ensures full fail-safe operation
- Trouble-free maintenance and one-person check and calibration
- AISI 316L stainless steel housing enclosure
- Explosion proof design, Ex-d

Observer-i

Custom Products

Individually designed gas detection solutions to fit your application

Special solutions sometimes require greater versatility and unique equipment configurations. MSA's Custom Products group offers individually designed solutions for customer monitoring, control, and data acquisition applications.

Each custom system is individually designed to provide the very best solution to unique application requirements. MSA Custom Products provide customers with a distinctive combination of solutions, expertise, and timeliness. Examples include:

- Flow panels
- Intrinsically safe multi-point gas sampling systems
- Facility management monitoring systems
- Customer-defined packaging solutions
- Shipboard rugged systems
- OEM packaging and labeling

Controllers

SUPREMATouch Controller

SUPREMATouch is a gas and fire warning system for large area measuring.

Key features:

- Processes up to 256 inputs and 512 outputs
- Multi-lingual touchscreen enabling intuitive operation
- New software enabling remote, one-man, and group calibration
- SIL 3 compatible due to the option of redundant input cards

SUPREMATouch

SENTRY io® Controller

The SENTRY io is an easily-configurable, wall-mount multi-channel controller suitable for a variety of industrial applications.

Key features:

- Monitors up to 16 inputs and 56 outputs with an option for analog outputs
- Modern multi-lingual touchscreen HMI supports intuitive operation
- SmartStart walks users through setup process saving valuable time
- EZ-ID synchronizes and pre-populates details of HART-enabled MSA detectors
- Digital communications supported: Modbus TCP/IP, Modbus RTU (optional), EtherNet/IP/DLR

SENTRY io

9010/9020 Controller

The 9010/9020 Gas Controller provides maximum flexibility, simple operation, and high reliability.

Key features:

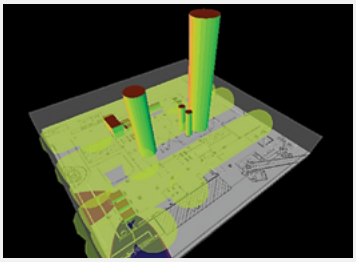
- Monitors up to 20 channels independently
- Options in 19-in. rack or wall-mount box (one or two channels)
- Works in combination with a wide range of MSA gas sensors
- Large LCD and LED inform about gas concentration, alarm status, and more
- RS 485 Modbus RTU, Ethernet for Modbus TCP

9010/9020

Improving Detection Coverage with Fire and Gas Mapping

Fire and gas mapping is a solution that assists in the evaluation of flame and gas risks within a process facility and in the reduction of these risks towards an acceptable risk profile.

Fire and gas mapping includes placing of detectors in appropriate locations to achieve the best possible detection coverage, with a systematic and numeric method, which also considers external factors, such as wind direction and obstructions. The output of a mapping study includes graphical maps of residual risks, recommended detector placements, and numerical estimates of detection coverage.



Remote Monitoring and Notifications

On-site or in the cloud, MSA's Infrastructure Connectivity Solutions enable the sharing of critical operational data 24/7 through our safe and secure FieldServer gateways and our cloud-based services—MSA Grid FieldVEU and MSA FieldServer Manager.

MSA's FieldServer IIoT solutions help support a variety of field devices, including MSA's fixed gas and flame detectors, by notifying of events in the field via BACnet, EtherNet/IP, Modbus, SNMP, and a host of other protocols.

System Capabilities

General Monitors HazardWatch® NFPA 72 Fire and Gas System

The innovative, modular HazardWatch System combines highly reliable programmable logic controller (PLC) technology with our advanced gas and flame field devices. It is highly scalable, making it suitable for small systems (HazardWatch FX-12) to large plant-wide applications. Offering intelligence, flexibility and reliability, the HazardWatch System's controller hardware configuration and software has been tested by Factory Mutual to verify NFPA 72 compliance.

HazardWatch key features:

- Both fire and gas functions are certified to NFPA 72 by FM
- FM certified fiber optic network allows for multiple HazardWatch systems to be networked together
- Touchscreen interface (10.4 in.) provides user-friendly graphical interface and supports plot plans
- Field wiring topology is simple, reliable, and cost effective
- FM certified ControlNet, Ethernet, or Modbus output from the system

HazardWatch

HazardWatch® FX-12 Fire and Gas System

- Factory Mutual (FM) approved for NFPA 72 (2013) compliance
- Up to 12 field devices can be supported per alarm panel, with capability to network up to 12 panels
- Remote monitoring and notifications available
- Data and event logging
- Enclosure available in gray or red housing

HazardWatch FX-12

MultiGard™ 5000 Gas Sampling System

The MultiGard 5000 Gas Sampling System uses auto-standardization and flexible sample point order to analyze gas from up to 32 locations.

- Modular construction allows simple installation and maintenance
- Easy setup via front touch-screen panel display
- Common alarm and fault relays
- Gas flow failure indication
- Options include discrete relays and Modbus TCP/BACnet IP output

MultiGard 5000

MSA Field Service — Professional, Reliable, and Responsive

Alongside a broad portfolio of high-quality products, MSA Safety delivers customized service designed to support your operations. Our comprehensive and flexible service offerings help keep your equipment and systems reliable, cost-effective, and ready for use—backed by expert support whenever you need it.

- Installation and Commissioning. Premium commissioning service program—designed to make it easy for you to have successful start-ups and commissioning of newly installed fixed gas and flame instruments.
- Maintenance—MSA's routine maintenance service program is designed to make it easy for you to budget for the maintenance and calibration needs for your fixed gas and flame instruments. This program offers a flat-fee approach to make it easy for you to determine your costs.
- Project Management
- System Modification
- Repair & Service
- Training

MSA—The Safety Company

Established in 1914, MSA Safety Incorporated is the global leader in the development, manufacture, and supply of safety products that protect people and facility infrastructures. Many MSA products integrate a combination of electronics, mechanical systems, and advanced materials to protect users against hazardous or life-threatening situations. The company's comprehensive product line is used by workers around the world in a broad range of markets, including the oil, gas, and petrochemical industry, the fire service, the construction industry, mining, and the military. MSA's core products include self-contained breathing apparatus, fixed gas and flame detection systems, portable gas detection instruments, industrial head protection products, firefighter helmets and protective apparel, and fall protection devices. With 2024 revenues of $1.8 billion, MSA employs approximately 5,000 people worldwide. The company is headquartered north of Pittsburgh in Cranberry Township, PA, and has manufacturing operations in the United States, Europe, Asia, and Latin America. With more than 40 international locations, MSA realizes approximately half of its revenue from outside North America. For more information visit MSA's web site at www.MSAsafety.com.

Our Mission

MSA's mission is to see to it that men and women may work in safety and that they, their families, and their communities may live in health throughout the world.

MSA: SAFEGUARDING PEOPLE, PLACES & THE PLANET.

MSA operates in over 40 countries worldwide. To find an MSA office near you, please visit ***MSAsafety.com/offices***.

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