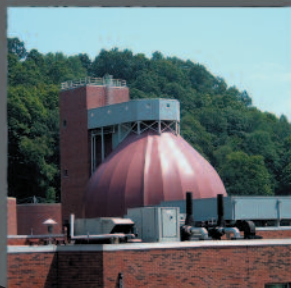
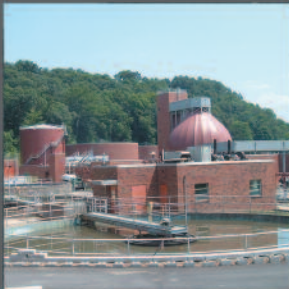


# MSA Gas Detection

for the Water and Wastewater Industries



Does your facility  
meet NFPA 820?

[www.MSAafety.com](http://www.MSAafety.com)

**MSA**  
The Safety Company



## A Passion for Safety

MSA's passion for safety comes from almost a full century of manufacturing high quality gas monitoring instruments.

MSA designs and manufactures a complete line of world-class gas detection products for water and wastewater industries.

Our passion shows through in our rugged, globally-approved permanent instruments and our reliable, easy-to-use and durable single- and multigas portable instruments; providing you with complete solutions for your needs.

We are dedicated to designing and manufacturing the highest-quality gas monitoring instruments for our customers to help ensure that men and women may work in safety and that they, their families, and their communities may live in health throughout the world.

Providing the best products, service and support in the industry; that's the MSA passion.



MSA offers a full line of gas detection instruments to meet your needs and those of everyone in your organization.

### Ultima® X Gas Monitors

Ultima X Series Gas Monitors are engineered using microprocessor-based technology for detection of combustible and toxic gases, and oxygen deficiency. HART Protocol provides increased sensor data and convenient setup, calibration, and diagnostics. It also enables existing wiring to be used, reducing installation costs. Advanced features of the Ultima X Gas Monitor include:

**Sensor Disconnect Under Power** - MSA's proprietary feature allows for sensor change-out without declassifying a hazardous area.

**Interchangeable Smart Sensors** - Pre-calibrated sensor modules are ready for installation out of the box. Sensors can be field-replaced without tools.

**State-of-the-Art Display** - Liquid crystal display conveniently alternates between sensor reading and gas type and features scrolling messaging, indicating ongoing diagnostic checks such as sensor end-of-life condition.

**World-Class Design** - Engineering efforts feature single-board design for ultimate reliability and serviceability. Ultima XE and XIR Gas Monitors feature a 316 stainless-steel multiple-entry mounting enclosure. The Ultima XA Monitor features a water- and corrosion-resistant, all-purpose, NEMA 4X polycarbonate enclosure. Both enclosures are designed to be separate from electronics and sensor, allowing for problem-free installation and servicing.

**Infrared Technology** - The Ultima XIR Gas Monitor provides microprocessor-based, infrared point gas detection for continuous monitoring of combustible gases and vapors. Operation using dual wavelength-heated optics technology provides definitive compensation for temperature, humidity, and aging effects. Ultima XIR Gas Monitors are IP67-rated (dust-proof, protected from temporary water immersion) to withstand the rugged demands of the water and waste water industry.

**Onboard LEDs and Relays** - Optional quick-check LEDs and four relay outputs allow for increased indication of alarm and fault conditions. Quick-check LEDs, viewable from afar, indicate NORMAL (green) and ALERT (red) status conditions.

### Ultima X<sup>3</sup> Technology

X<sup>3</sup> Technology brings multi-sensing and RTU output to Ultima X Series Gas Monitors.

- Sensors can be observed remotely up-to 3000 ft. from the monitor.
- A system can handle up to 31 monitors with up to 3 sensors per monitor for a total of 93 sensors.
- Any combination of electrochemical, catalytic, and infrared type sensors are available, making it a match for all applications.



## GasGard® XL Controller

The GasGard XL Controller is a versatile, easy-to-use wall-mounted controller for monitoring toxic and combustible gases, and oxygen deficiency. It is compact with a durable housing constructed of fire-retardant ABS plastic. The large and clear multi-language LCD display provides real-time target gas readings and events, offers full system diagnosis, and is supported by individual LEDs per channel with common relays and internal buzzer. The GasGard XL Controller can be easily configured to accept up to 8 remote gas sensors.



- Fully configurable via USB or RS485 Modbus connection
- Event log upload through isolated Ethernet RS 485 or USB
- Multi-language display selectable via controller menu
- Expandable up to 8 independent channels using plug-in boards
- Dedicated keys make all functions accessible from front panel
- Common relay board for Alarm Level 1 and 2, Horn 1 and 2, or Failure
- Optional 2 additional relays per channel
- Large graphic display with intuitive icons; all channels shown at a glance
- Internal buzzer 85 dB

## ModCon® 75 Controller

MSA's ModCon 75 Controller is designed for use with the Ultima X Gas Monitor with X3 Technology, enabling self-configuration and saving time and money. This pre-programmed, self-configuring controller monitors up to 25 Ultima X Gas Monitors with X3 Technology transmitters (75 sensors total). Compact unit allows for remote control of many features. RTU input/output and over-Ethernet interface capability.



- All pertinent data displays on main data screen.
- 7-year battery backup provides memory and real-time clock.
- Up to 9 zone relays are standard.
- Remote relay option allows for local alarming.

## 9010/9020 Controller Units

9010/9020 Controllers offer maximum flexibility to work in conjunction with a wide variety of remote 4/20 mA sensors to provide reliable gas

detection in a wide range of industries and applications. Modular design combined with dual-channel capability allows for a variety of configurations to meet most applications. Each control module comes with an independent AC/DC power supply transformer for increased system reliability.



## The FlameGard® 5 Series of Flame Detectors includes three models:

- **FlameGard 5 MSIR Flame Detector**  
Combines a precision multi-spectral infrared (MSIR) sensing array with highly intelligent neural network processors for high accuracy through superior false alarm immunity.
- **FlameGard 5 UV/IR Flame Detector**  
Uses ultraviolet and infrared technologies for flame detection.
- **FlameGard 5 UV/IR-H2 Flame Detector**  
Uses ultraviolet and infrared technologies to detect hydrogen fires.



Features that set the FlameGard 5 Series apart:

- Multi-spectral infrared sensing array (in the FlameGard 5 MSIR Detector) with highly intelligent neural network processors provides high accuracy through superior false alarm immunity
- Wide field of view
- SIL 3 suitable products
- Continuous Optical Path Monitoring (COPM) checks optical path integrity and electronic circuitry once every minute

The **FlameGard 5 Test Lamp** provides an easy way to verify the functionality of any of the FlameGard 5 Detectors.



## Ultima® OPIR-5 Open Path Gas Detector

The Ultima OPIR-5 Detector is an open path IR gas detector that provides continuous monitoring of combustible gas concentrations at a path length of up to 150 meters.



- Dual detection range enables sensitivity to both small (ppm · meter) & large (LEL · meter) gas leaks. The ppm · meter range allows for fast detection of low level leaks.
- Performance approved for use in harsh environments
- Up to 150 meter path length
- Multiple communication outputs (HART, ModBus, AMS Support) provide complete status and control capability in the control room
- Unitized display for ease of operation and reduced cost. Alignment of an open path unit via the integrated display has never been so easy.
- Automatic gain control compensates for dirty optics, rain and fog



# Custom Systems

MSA can create a custom system for your specific application.

## TriGard® Gas Monitor for Chlorine and Sulfur Dioxide

The MSA TriGard Gas Monitor is designed for monitoring chlorine, sulfur dioxide, and other toxic gases, as well as for oxygen deficiency or enrichment. These new monitors were designed specifically for water and wastewater facilities which are typically large producers of these gases. The MSA TriGard Gas Monitor offers an affordable monitoring solution for a variety of needs.

- Adjustable range
- Multiple sensor mounting options
- AC- or DC-powered
- On-board relays
- NEMA 4X design
- LCD display with highly visible LED indicators
- Piezo horn with horn silence button
- Long-life, MSA-designed sensors
- Simple push-button calibration
- Available as single-point or 3-point unit



Advanced features include sensor disconnect under power, interchangeable smart sensors, state-of-the-art display, world-class design, and onboard LEDs and relays.

## MODEL 10K™ Integrated Fire and Gas System

The MODEL 10K Integrated Fire and Gas System is an NFPA 72-approved fire and gas controller. It represents the next generation in highly intelligent monitoring solutions designed to reduce hazard vulnerability and meet the world's most demanding safety standards.

The MODEL 10K is an innovative, modular system that is highly scalable and delivers the following features and benefits:

- FM Approved
  - To NFPA 72 compliance as a system
  - Proprietary central station monitoring
  - As both fire alarm panel & gas controller
  - Fault tolerant digital communications
  - Releasing control panel
- Remote I/O capability
- Optional fiber optic communications
- Color touch-screen operator interface
- Data and event logging
- Supports third party device integration
- Gas calibration histories (combustible and H<sub>2</sub>S gas)
- Simple, reliable and cost-effective field wiring topology
- Addressable detection loop for buildings



The MSA MODEL 10K Fire and Gas System is ideal for use in compressor stations, drilling and production platforms, refineries and pipelines, LNG/LPG facilities, storage facilities, chemical plants, electric power plants and wastewater treatment plants.

## Scrubber Monitoring System

With the increased concern for clean air, many wastewater treatment plants are adding air scrubber systems to help control odor (hydrogen sulfide) emissions. MSA offers both in-situ-type sensors for large diameter pipes and/or pre-engineered sample draw systems for those applications that require higher detection ranges up to 500 ppm. Both of these products can also be used in chlorine scrubber applications with a range of 0-25 PPM.

MSA Ultima® X or X3 Sensor/Transmitters with duct mount kit feature remote calibration for use within larger pipes. All of the advanced features of Ultima X or X3 Monitors are available, including smart sensors, onboard relays and LEDs, internal power supply option, and true 1-person calibration.

The MSA Scrubber Monitoring System is a pre-engineered system that is compatible with most wet or dry scrubbers. The system operates within a closed loop so that no gas is vented into the atmosphere. Built to withstand harsh outdoor environments, it is housed in a heated NEMA 4X enclosure.

Maintenance and calibration are simple procedures. If an obstruction occurs in the sample line, the unit provides a flow failure indication. Calibration can be performed with an IR calibrator, eliminating the need to open the system's front door.

Benefits:

- Ensures that your scrubber is working and meeting EPA requirements.
- Indicates break-through for carbon bed scrubbers.
- Controls chemical feeds for wet scrubbers.
- Conserves expensive chemicals.
- Eliminates complaints from the community.



## Tri-Gas Sample Draw System

Areas of wastewater treatment plants that are subject to flooding, such as wet wells, are ideal for MSA's 3-gas sample draw custom system. The system is ideal for monitoring oxygen, hydrogen sulfide, and combustible gases (methane or petroleum vapors). In addition, the system is specifically designed for optimum performance in high-moisture environments.

MSA's 3-gas sample draw system consists of up to 3 sensors with Ultima X3 Technology digital communications (RTU output) with onboard LEDs and relays to provide local alarms.

Options:

- 1 or 2 top-mounted beacons
- Heated enclosure
- Combustible IR sensor
- 4X stainless steel enclosure
- Federal, side-mounted horn
- Additional common dry contacts



# Portable Gas Detectors

MSA offers a full line of portable single-gas and multigas detection instruments for confined space monitoring.

## ALTAIR® 4X Multigas Detector with MSA XCell® Sensor Technology

Great features including average 4+ years sensor lifespan (double the industry average), sensor response and clear times of less than 20 seconds, and faster span, calibration, and bump times save you money. An additional year may be added to MSA's standard instrument 3-year warranty, with sensors included.

- MotionAlert™ feature standard alarm alerts workers that a fellow worker may have succumbed to the environment's hazards.
- InstantAlert™ feature lets workers manually activate this standard alarm to alert co-workers of unexpected hazards.
- Rubber over-molded rugged housing allows units to survive drops of 10+ ft.
- Dust and water resistance.
- High-contrast, icon-driven display with intuitive icons for fast interpretation of detector readings.
- Top and bottom, bright red LED visual alarms can be seen from almost every angle by both users and co-workers.



## ALTAIR 5X Multigas Detector with MSA XCell® Sensor Technology

The ALTAIR 5X Multigas Detector monitors up to six gases simultaneously, using a combination of MSA XCell and infrared sensors.

### Built on Durability

- Only instrument in its class with internally-integrated pump
- Full three-year warranty on LEL, O<sub>2</sub>, H<sub>2</sub>S, CO, SO<sub>2</sub>, and IR sensors
- Withstands 10-foot drop test

### Powered by Performance

- Four-year sensor life on LEL, O<sub>2</sub>, H<sub>2</sub>S, CO, SO<sub>2</sub>, and IR sensors –60% longer than industry average
- Three-year sensor life on NH<sub>3</sub> and Cl<sub>2</sub>
- MSA-exclusive instrument end-of-sensor-life warning, MotionAlert™, and InstantAlert™ features

### Flexibility to meet your Needs

- Interchangeable plug-and-play sensor slots (XCell sensors)
- Color or monochrome display options

### Revolutionizing Sensor Technology

- Industry-first 60-second span calibration time\*
- Sensor response and clear times in under 15 seconds\* – 50% faster than industry average

\* for LEL, O<sub>2</sub>, CO, H<sub>2</sub>S, and SO<sub>2</sub>



## Sirius® PID Multigas Detector

The Sirius® Multigas Detector provides users with outstanding multifunctional capabilities by allowing simultaneous monitoring of volatile organic compounds (VOCs) with low vapor pressures while measuring for combustible, toxic, and oxygen-deficient atmospheres with one reliable, easy-to-use, durable unit.



## Galaxy® Automated Test System

The Galaxy Automated Test System is a versatile and durable calibration and test system that uses the latest technology to provide simple, reliable performance in a design that withstands the harshest of environments. Versions are available for the Solaris® Multigas Detector, Orion® Multigas Detector, Sirius Multigas Detector, and ALTAIR and ALTAIR Pro Single-Gas Detectors.



## ALTAIR and ALTAIR Pro Single-Gas Detectors

### ALTAIR Single-Gas Detector

- Maintenance-free monitoring with 2-year lifespan
- Sensors: carbon monoxide, hydrogen sulfide, and oxygen



### ALTAIR Pro Single-Gas Detector

- Replaceable sensor and battery
- Sensors include ammonia, carbon monoxide, chlorine, hydrogen sulfide, oxygen, and sulfur dioxide. Other sensor options are available.



### Both units feature:

- Reliable performance with easy one-button operation.
- Superior dust and water protection and high RFI-resistance.
- Large, clear, backlit LCD.
- Distinctive triple-alarm system.



## Gas Detection Selection Chart

Hazard Location	Flame Detection	Methane	Oxygen	Hydrocarbon	Chlorine	Hydrogen Sulfide	Carbon Monoxide	Carbon Dioxide	Sulfur Dioxide	Ammonia
Anaerobic Digesters, Both Fixed & Floating Cover*		•	•			•		•		
Digester Control Building		•	•			•				
Digester Gas Processing Rooms		•	•			•				
Underground (piping) Tunnels Containing Natural or Sludge Gas Piping	•	•	•			•				
In-vessel Compositing*	•	•								
Alcohol Storage		•	•							
Incinerators		•	•	•			•			
Chlorination Room					•					
Chlorine Storage Tanks & Room					•					
Ammonia Storage Tanks & Pipes										•
De-chlorination Processes			•						•	
Sulfur Dioxide Storage Tanks									•	
Wet Wells (Storm Water, Residential Wastewater)		•	•			•				
Pumping Stations		•	•			•				
Course & Fine* Screen Facilities		•	•			•				
Flow Equalization Tanks*		•				•				
Grit Removal Tanks*		•	•			•				
Pre-Aeration Tanks*		•				•				
Primary Sedimentation Tanks*		•	•			•				
Oxygen Aeration Tanks		•								
Scum Handling Building*		•	•			•				
Scum Pits*		•	•			•				
Scum Pumping Areas* Wet & Dry Side		•	•			•				
Sludge Thickener*		•	•			•				
Sludge Storage Areas*		•	•			•				
Sludge Blending Tanks* and Holding Wells		•	•			•				
Odor Control System Access	•	•				•				
Composting Piles	•									
Dewatering Buildings	•									
Anaerobic Digestion Gas Storage		•								
Underground (Piping) Tunnels <b>NOT</b> Containing Natural or Sludge Gas Piping	•									

\*If building is enclosed.

**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.



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