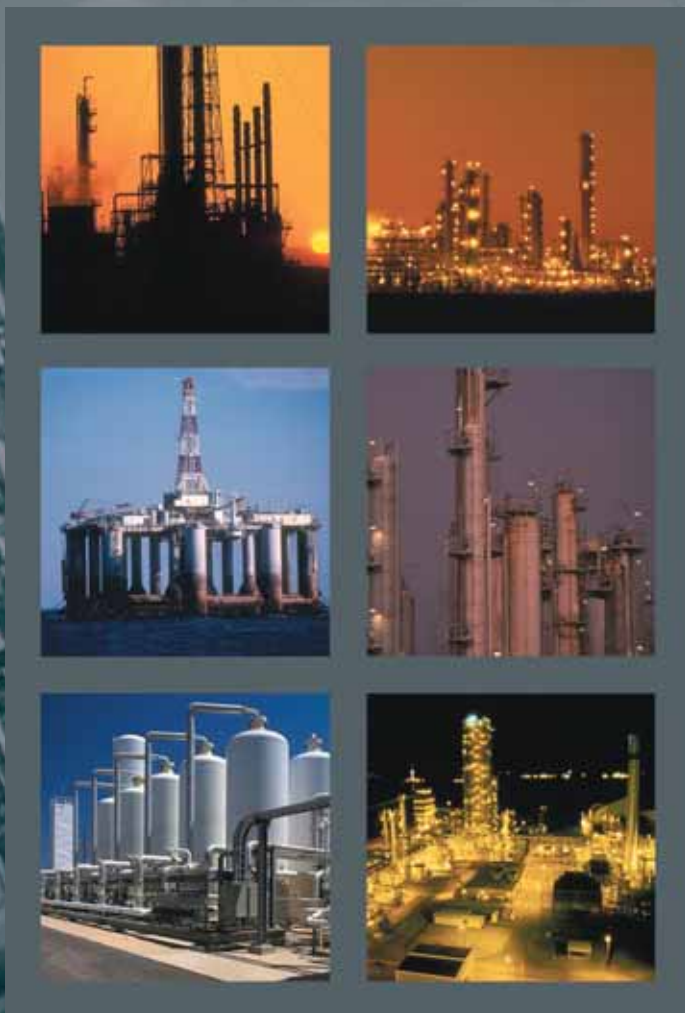


# MSA Flame and Gas Detection

for the Oil, Gas and Petrochemical Industries



## **A PASSION FOR SAFETY**



**MSA's passion for safety comes from almost a full century of manufacturing the best-of-breed, highest-quality gas-monitoring instruments.**

**MSA designs and manufactures a complete line of world-class flame- and gas-detection products for the oil, gas and petrochemical industries.**

**Our passion shows through in our all-stainless, globally approved flame- and gas-detection permanent instruments and our reliable, easy-to-use and durable single- and multi-gas portable instruments. We are proud to offer the only TUV-approved**

**SIL3 and NFPA72 compliant control system, ensuring the ultimate in reliability and safety. We also offer smoke detectors, heat sensors, manual alarm call points, pull stations and more, providing you with a complete solution for your needs.**

**We are dedicated to designing and manufacturing the highest-quality flame- and gas-monitoring instruments for our customers to 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.**

## **THE MSA ADVANTAGE**



### **GLOBAL REACH**

**MSA is the largest company in the world dedicated solely to producing a complete range of equipment and systems for worker and plant protection. With headquarters located in Pittsburgh, Pennsylvania, our operations extend around the world. Our vast resources ensure that an MSA affiliate is never far away and help to maintain our commitment to protecting lives in more than 120 countries, on all continents around the globe.**

### **LOCAL PRESENCE**

**MSA-authorized representatives comprise one of the largest distribution networks, providing comprehensive sales, service and support. MSA field sales representatives and service technicians are thoroughly trained in the use, application and servicing of our products. With MSA, you have access to a dedicated and highly trained staff in the field as well as support within our Customer Service Center. Engineers, architects and operators will find flame- and gas-detection products to suit their every need, with the superior reliability, durability and design excellence that you expect from MSA.**



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

### Suprema® Control System

The MSA Suprema Control System offers the new standard in flame- and gas-detection technology. This state-of-the-art system features modular redundancy for the monitoring of 4-20mA output sensors, smoke detectors, heat sensors, manual alarm call points, pull stations and more. Designed to meet a wide range of safety needs, the Suprema Controller offers:

- Signal processing for up to 256 inputs and 512 outputs per controller.
- A modular, intelligent safety system that is field configurable and provides a distributed bus technology architecture to ensure fail-safe internal data transfer.



- Easy installation, commission and reconfiguration.
- Minimal maintenance, keeping the cost of ownership low.
- ATEX safety approvals and TUV approval for up to SIL3 systems and NFPA72 compliance.

### The Flamegard® Series of Flame Detectors

Flamegard Flame Detectors provide continuous optical flame detection for hydrocarbon-based fires. They can operate as a stand alone unit without a control panel, or can be connected to a fire or security panel via an internal alarm or accessory relay. FlameGard Detectors reduce the possibility of false alarms because the units must receive the proper wavelength, duration and intensity of the fire's radiation before an alarm is activated. The self-test model further enhances the fire detection system because it performs a complete functional test periodically.

Enclosed in heavy-duty, copper-free, explosion-proof aluminum or stainless steel housings, FlameGard Detectors are easily mounted via a simple bracket or the optional Swivel Mount Kit.



#### 3 Versions:

##### *FlameGard UV Flame Detector*

- monitors ultraviolet radiation

##### *FlameGard UV/IR Flame Detector*

- dual-optical sensing monitors ultraviolet radiation and infrared radiation

##### *FlameGard IR3 Flame Detector*

- patented triple-infrared detection technique monitors infrared radiation while providing enhanced immunity to false alarms

#### Features of all three models:

- 4 to 20mA and RS-485 outputs
- alarm, accessory and fault relays
- 100,000 hours minimum calculated Mean Time Between Failure (MTBF)
- Easy to install, operate and maintain
- User programmable to various configurations
- High-speed response with false alarm suppression
- Optional MSA Fire Simulator provides flame-free testing

### SafEye™ Xenon 800 Open-Path Detection System

MSA's SafEye Xenon 800 Gas Detection System detects a wide range of hydrocarbons over an open path of up to 120 meters, using a dual-beam infrared concept. Its reliable technology has excellent operational records in installations ranging from the African deserts to hot and humid regions of Asia, the wet and cold North Sea, and the dry cold regions of Alaska.

- Improved low-profile stainless steel housing for easy installation and alignment
- 3mA maintenance call output and optional general purpose or intrinsically safe hand-held diagnostic/calibration unit

- Heated detector and source optics eliminate icing, condensation, and snow on optical surfaces
- Unique combination of triple optics and dual-spectrum sensor allows the system to maintain operational integrity in up to 90% signal obscuration
- Immunity to false alarms and poisoning



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## Ultima® XL/XT Series Gas Monitors

Ultima XL/XT Series Gas Monitors are economical continuous gas monitors. Single-sensor units use catalytic, electrochemical, and infrared gas detection technologies for combustible and toxic gases and for oxygen deficiency. HART Field Communications Protocol running over 4-20mA output provides convenient setup, calibration, and diagnostics.



The hand-held HART communicator, controller or laptop provides a display, while local calibration employs LEDs and push-buttons. The Ultima XL Gas Monitor and Ultima XL Infrared Combustible Gas Monitor are explosion-proof with a stainless steel enclosure, while the Ultima XT Gas Monitor is in a general purpose plastic housing.

- Sensor disconnect-under-power without declassifying a hazardous area
- Interchangeable smart sensors; no reconfiguration required
- One circuit board for increased reliability and easier serviceability
- Calibrate, set up or perform diagnostics with HART from any point along the 4-20mA line
- Easy installation with two-piece field wiring connectors
- Asset management using HART interface
- Adjustable full-scale range
- 10 year warranty on XLIR (IR source only)

## Ultima® XE Gas Monitor

The Ultima XE Gas Monitor offers the latest in mechanical and electrical technologies for the continuous gas monitoring of combustible and toxic gases, as well as oxygen deficiency. HART Field Communications Protocol provides increased sensor data, part of cost-effective asset management. HART also provides convenient setup, calibration, and diagnostics. Calibrate, set up or perform diagnostics with HART from any point along the 4-20mA line. HART allows for existing component install and wiring to be used, reducing installation costs. Advanced features of the Ultima XE Monitor include:

- DuraSource technology offers improved sensor life.
- FM, UL, CSA, ATEX and IEC approvals.
- World-class design features one electronics board for maximum reliability and serviceability. The 316 stainless-steel, multiple-entry mounting enclosure enables problem-free installation and servicing.

- Disconnect under power, allowing for replacement of sensors in hazardous areas.
- Interchangeable smart sensors, making installation and replacement extremely easy. New sensors are recognized, triggering automatic alarm and relay setting reconfiguration.
- State-of-the-art display conveniently alternates between sensor reading and gas type, and features scrolling diagnostic messaging.
- Onboard LEDs and relays provide increased indication of alarm and fault conditions.



## Ultima® XIR Infrared Gas Monitor

The Ultima XIR Gas Monitor provides a microprocessor-based, infrared-point gas detector for continuous monitoring of combustible and carbon dioxide gases and vapors. The Ultima XIR Monitor utilizes dual-wavelength heated-optics technology, providing definitive compensation for temperature, humidity and aging effects. The IR technology offers excellent long-term stability, eliminates the need for frequent calibrations and reduces the overall cost of ownership. The Ultima XIR Monitor offers the same features as the Ultima XE Gas Monitor plus advanced features including:

- FM, UL, CSA, ATEX and IEC approvals.
- DuraSource technology offers improved sensor life.
- 10 year warranty on IR source.
- Field-selectable algorithms for a variety of hydrocarbon-based gases.
- “Fail to safety” operation — designed without a sintered disk.

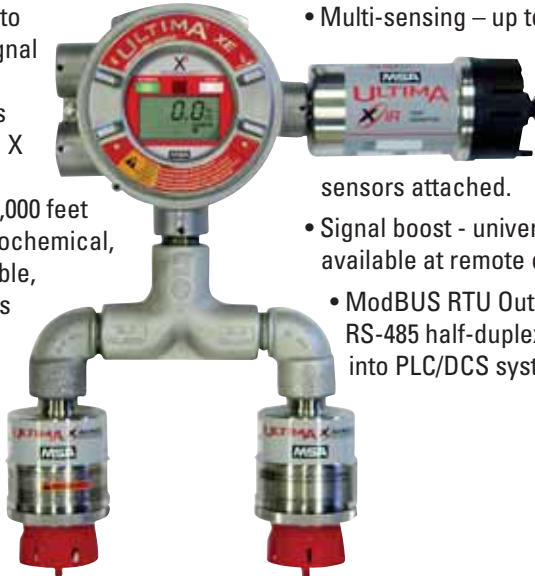


The Ultima XIR Monitor eliminates the need for gas calibration—a simple zero adjustment

provides reliable accuracy. It operates over extended temperature ranges, has a rapid response time and is immune to sensor poisoning. The Ultima XIR Monitor functions in both high-gas and low-oxygen environments and contains no moving parts, jumpers, switches or pots.

## Ultima® X Series Gas Monitors with X<sup>3</sup>® Technology

Ultima X Series Gas Monitors with X<sup>3</sup> Technology provides continuous monitoring of combustible and toxic gases and oxygen deficiency. X<sup>3</sup> Technology is “X to the Power of 3” and brings multisensing, signal boost and ModBus output to the Ultima X Series Gas Monitors. The technology allows three sensors to be inputted into one Ultima X Gas Monitor and provides a ModBus RTU output. Each sensor can be remoted up to 3,000 feet from the monitor. Any combination of electrochemical, catalytic, and infrared-type sensor is available, making it a perfect match for all applications and industries.



Ultima X<sup>3</sup> Technology for Ultima X Series Gas Monitors features:

- Multi-sensing – up to 31 monitors with up to 3 sensors inputted per monitor for a total of 93 sensors.
- Scrolling display – monitor scrolls through type and reading for all sensors attached.
- Signal boost - universal 85-256VAC or 7-30VDC power supply available at remote conduit.
- ModBUS RTU Output - industry standard RTU format, RS-485 half-duplex communication interface, integration into PLC/DCS systems.

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

### ALTAIR® Single-Gas Detector



The ALTAIR Single-Gas Detector provides maintenance-free monitoring of carbon monoxide, hydrogen sulfide or oxygen. A two-year lifespan, coupled with the unit's high performance, results in one of the most cost-effective monitors on the market.

- Advanced design offers superior dust and water protection and high resistance to RFI.

- Rubberized housing and one-button operation provide durability and ease of use.
- Triple-alarm system features two bright LEDs, piercing audible alarm and vibrating alarm.
- Automatic recording of last 25 alarm events.
- To read data or change alarm set points simply connect unit to an MSA infrared adapter using built-in IR communication port.

### ALTAIR® Pro Single-Gas Detector



Innovative ALTAIR Pro toxic gas and oxygen detectors with replaceable sensor and battery display gas concentration or percent oxygen on a large, clear, backlit LCD. The ALTAIR Pro Single-Gas Detector provides worry-free performance and stands up to the roughest handling in even the toughest industrial environments. Its rubberized armor housing and one-button operation provide the durability and simplicity you expect from MSA.

- Ease-of-use (1-button operation).
- Distinctive alarm system.
- Alarm check, bump check, fresh air zero, and calibration made easy.
- Easily replaceable, commercially available battery.
- Replaceable sensors.
- Built-in IR communication (event & data-logging).
- Rugged design.
- Water- and dust-resistant.

### ALTAIR® 4 Multigas Detector



The extremely durable ALTAIR 4 Multigas Detector is the only portable gas detector with an optional MotionAlert™ feature indicating if a user becomes disabled due to unforeseen hazards, making it ideal for confined space entry applications. An InstantAlert feature allows users to manually alert others to a potentially hazardous situation. Ribbed rubber over-molded housing is easy to grip, provides unsurpassed durability, is rated IP67 against dust and water ingress, and passes a 10+ foot drop test.

- High-contrast display powered by three large, rubberized buttons enables easy operation in low-light conditions.
- 95+ dB audible alarm and ultra-bright alarm LEDs on both top and bottom offer maximum visibility.
- Galaxy System compatible for calibration and record keeping. QuickCheck® Test Station for fast, easy bump testing is also available.
- Data logging is standard
- 16-hour battery run time
- MSA Link Software ready



## ALTAIR® 5 Multigas Detector

The ALTAIR 5 Detector is the first portable 5-gas detector with MotionAlert™ and InstantAlert™ features. Customizable for many applications and ideal for confined spaces, the unit has great visibility and outstanding durability.



### Features

- Logo display screen customization
- MotionAlert and InstantAlert features standard
- MSA Link Software with multi-language capability
- Galaxy Test System-compatible
- Triple alarms at 95 dB+
- Durable rubber/synthetic over-molding

- Intuitive 3-button operation
- Unit passes 6-foot drop test; IP65-rated for water/dust ingress
- Real-time on-line monitoring capability with MSA Link Software
- 2-year comprehensive warranty for standard models

### Options

- High-resolution color or monochrome display screen
- Many e-chem sensor options
- Integral pump or diffusion option
- Rechargeable lithium-ion or alkaline battery options
- More than 17 language display capability

## Galaxy® Automated Test System



The new MSA Galaxy Automated Test System has all the features needed in an automated, record keeping, and calibration test system – including low cost, ease of use, versatility, and durability. The Galaxy Automated Test System operates without the touch of a single button. After setup, users place their instrument in the test stand and the Galaxy System will automatically perform the test. The Galaxy System is stand-alone, requiring no computer, controller or network interface. This new system from MSA offers ease of use with minimal training needed, as all

gas tubing and electrical connections are pre-connected. The Galaxy Automated Test System is compatible with the MSA Solaris® Multigas Detector (datalogging version), the MSA Sirius® Multigas Detector, and the MSA Orion® Multigas Detector (datalogging version).

### Other features include:

- Wired network interface available.
- Instrument charging capability, memory card and test receipt printer options. Standard web browser accessibility for data retrieval and reporting. In-line gas cylinder holster available to keep the work area orderly.
- Expandable; up to 10 systems can be interconnected.

## Sirius® Multigas Detector



The Sirius Multigas Detector provides users outstanding multifunctional capabilities by integrating a high performance photoionization (PID) detector into a 4-gas detector. Users are able to simultaneously monitor for volatile organic compounds while measuring for combustible, toxic and oxygen-deficient atmospheres within one reliable, easy-to-use unit.

- MSA's innovative PID design (patent pending) provides users with superior PID performance including humidity resistance, stable zero readings and fast response times.
- Interchangeable rechargeable and disposable battery options can keep the instrument running practically 24 hours-a-day, 7 days-a-week.
- One-button auto calibration makes calibration simple for any user. The Sirius Multigas Detector is also compatible with MSA's Galaxy System for automated calibration and recordkeeping.

**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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