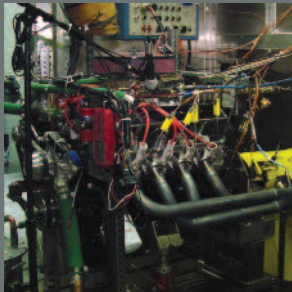


MSA Gas Detection in the Automotive Industry



www.msanet.com

MSA
The Safety Company



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

Sensor Technology for Dynamometer Test Cells, Laboratories and Fuel Storage | Code-Compliant, Class 1 Division 1 Approval

Ultima® X Series Gas Monitors offer continuous gas monitoring of combustible gases, toxic gases, and oxygen deficiency, and provide HART Protocol. Ideal for roll chassis or engine dynamometer test cells and in research and engineering laboratories, these monitors offer advanced sensing technology choices: catalytic bead LEL, electrochemical toxic, and infrared LEL gas detection methods. Ultima XIR and XE Gas Monitors, with single-board designs in stainless steel enclosures, offer maximum serviceability and easy installation. Ultima XIR and XI Gas Monitors offer DuraSource Technology, an improved light source providing extended sensor life.

Fuel storage applications require LEL gas detection for gasoline distribution facilities, fuel blending areas, and tank farms.

Microprocessor-based Ultima X Series Gas Monitors offer sensor-disconnect-under-power, a highly convenient feature in hydrocarbon detection, allowing sensor change-out without declassifying a hazardous area. HART Field Communications Protocol provides increased sensor data, part of cost-effective asset management. HART Protocol also provides convenient setup, calibration, and diagnostics. HART Protocol allows for existing component install and wiring to be used, reducing installation costs.

- Pre-calibrated, interchangeable Smart Sensors are ready for installation
- Calibrate, set up, or perform diagnostics with HART Protocol from any point along 4-20mA line
- Ultima X Series Sensor X-change™ Program provides replacement calibrated sensor modules when needed, on demand
- Operates as standalone or connected with standard 4-20mA output to control system (PLC, DCS, etc.)
- Modbus RTU digital communication protocol available
- Large liquid crystal display, quick-check LEDs, and relay outputs (three alarms and one fault)
- Multi-sensing allows for up to three different gas sensors per transmitter (such as CO, NOx, and LEL) for greater coverage
- SIL 2-certified products

Ultima X Series Gas Monitors with X3® Technology offer an excellent fit for many automotive industry applications. Modbus RTU output provides significant savings, reducing the cost of hardwiring by as much as 60%. Ultima X3 Technology allows up to three sensors to be inputted per monitor. Electrochemical, catalytic, and infrared sensors are available in any combination. Typical gas detection configurations needed for test cells, laboratories, and fuel storage areas are CO, NO₂, LEL, and often NO_x and SO₂ as well.

- Multi-sensing
- A system can handle up to 31 monitors with up to three sensors inputted per monitor for a total of 93 sensors
- Scrolling display – monitor scrolls through type and reading for all sensors attached
- Ultima X Series Gas Monitor with X3 Technology operates as a network slave device
- Each sensor can be observed remotely up to 3,000ft. from the monitor
- Modbus RTU output
- Industry-standard format
- Provides an RS-485 half-duplex communication interface
- Integration into PLC/DCS systems

The Ultima XIR Gas Monitor provides microprocessor-based, infrared point gas detection for continuous monitoring of combustible gases and vapors. Providing definitive compensation for temperature, humidity, and aging effects, Ultima XIR Gas Monitors are IP67-rated to withstand tough environments.

- Response time T90 ≤ 2 seconds
- 316 stainless steel with multiple-entry mounting enclosure
- Operation based on dual-wavelength, heated-optics technology
- IR technology eliminates the need for frequent calibrations

The Ultima XE Gas Monitor provides continuous monitoring of combustible and toxic gases and oxygen deficiency, using catalytic and electrochemical technologies. This unit features a 316 stainless steel enclosure for explosion-proof monitoring.

- Interchangeable smart sensors are extremely easy to install and replace
- Onboard LEDs and relays provide increased indication of alarm and fault conditions
- Quick-check LEDs are easily viewable from afar
- Operates on a standalone basis or can be connected to a control system



Chillgard® RT Photoacoustic Infrared Refrigerant Monitors provide economical, low-level monitoring of refrigerant gases used in most refrigeration systems or chillers down to 1 ppm. These units can be configured to monitor from up to eight remote areas and to detect a specific refrigerant or a group of refrigerants.

The Chillgard RT Monitor is easy to install, operate and maintain, and can operate for months with virtually no zero drift. Standard features include vacuum fluorescent display, audio alarm, three alarm levels, four relays and 4-20mA & 0-10V outputs.

- Operates over a wide temperature range
- Complies with ANSI/ASHRAE 15-2004
- 2-line x 20-character vacuum fluorescent display
- Three alarm levels
- Relay outputs for each alarm level
- Password protection
- Expandable with Multipoint Sequencer to monitor up to 8 locations



The **Chemgard® Photoacoustic InfraRed Gas Monitor** is a flexible platform for monitoring toxic and combustible gases for many applications, including Dowtherm J detection. Featuring advanced PIR low-cost sensing technology, this monitor offers virtually no zero drift, greatly reducing background gases and humidity interference.

The Chemgard Monitor detects nearly 100 major industrial compounds, including heat transfer fluids, petrochemicals, solvents, halons, intermediates, fuel vapors, cleaning agents, and many other common chemical agents. Monitoring ranges from as low as 0-10 ppm (with detection sensitivity as low as 10 ppb for some applications) to as much as 100% by volume are possible for a variety of gases.

- Three enclosure styles; explosion-proof, NEMA 4, or rack-mounted configurations
- Data-logging capability provides date-stamped information for gas readings, alarms, and fault conditions
- Easy-to-read display shows gas concentrations and alarms
- Three alarm levels with relay output
- UL 2075 approval

Controllers for MSA Instruments



The **GasGard® XL Controller** is a multi-channel, wall-mounted, economical controller for monitoring toxic and combustible gases, and oxygen deficiency. The GasGard XL Controller offers compact, durable, fire-retardant ABS plastic housing, large and clear multi-language LCD display, full system diagnostics, and individual LEDs per channel with common relays and internal buzzer.

The GasGard XL Controller is easily configured to accept up to eight remote gas sensors. With two alarm levels per channel, the GasGard XL Controller operates in conjunction with MSA's remote gas sensors (combustible, toxic, or oxygen 4–20 mA).

- Fully-configurable via USB or RS485 Modbus connection
- Event log upload through isolated Ethernet RS 485 or USB
- Dedicated keys make all functions accessible from front panel
- Large graphic display with intuitive icons shows all channels at a glance

The **Suprema® Control System**



offers the new standard in gas- and flame-detection technology. This system features modular redundancy for the monitoring of 4-20mA output sensors, smoke detectors, heat sensors, manual alarm call points, pull stations, and more.

- Signal processing for up to 256 inputs and 512 outputs per controller
- Modular, intelligent field-configurable safety system ensures fail-safe internal data transfer
- Easy installation, commission, and reconfiguration
- ATEX approvals, TUV approval for up to SIL3 systems, and NFPA 72 compliance

The **ModCon® 75 Controller** is a pre-programmed and self-configuring controller for monitoring up to 25 Ultima X Series Gas Monitors with X3 Technology (75 sensors total). This compact unit allows for remote control of many features as well as Modbus RTU input/output and Modbus-over-Ethernet capability.



- Self-configuring to Ultima X3 Gas Monitors
- Modbus RTU input/output
- Modbus-over-Ethernet interface
- View and control of up to 25 Ultima X3 Transmitters (75 total sensors)

Flame Detection for Paint Spray Booths

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.



Gas Detection Selection Chart

Hazard Location	Carbon Monoxide	Nitrogen Dioxide	Combustible Gas	Nitrogen Oxides	Sulfur Dioxide	Flame
Roll Chassis Dyno Test Cells	•	•	•	•	•	
Engine Dyno Test Cells	•	•	•	•	•	
R & E Labs	•	•	•	•	•	
Gasoline Distribution			•			•
Fuel Blending			•			•
Tank Farms			•			•
Paint Spray Booths			•			•

A Passion for Safety

MSA designs and manufactures a complete line of world-class gas and flame detection products for airport facility monitoring.

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.

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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