



HazardWatch® Fire and Gas System

FM-Approved Fire & Gas Detection System



SAFEGUARDING PEOPLE, PLACES & THE PLANET.

State of the Art Fire & Gas Protection

Intelligent, Modular and Flexible

The General Monitors® HazardWatch® Integrated Fire and Gas Detection System represents the next generation in highly intelligent monitoring solutions designed to help customers reduce hazard vulnerability and meet the world's most demanding safety standards.

HazardWatch System is an innovative, modular system that is highly scalable and delivers:

- FM-approved for NFPA 72 compliance
- FM-approved proprietary central station monitoring
- FM-approved as both fire alarm panel and gas controller
- FM-approved fault-tolerant digital communications
- FM-approved releasing control panel
- FM-approved addressable detection loop for buildings
- FM-approved remote I/O capability
- Optional fiber optic communications
- Color touch screen operator interface
- Data and event logging
- Supports third party device integration
- Single and redundant processor options available
- Simple, reliable, and cost effective field wiring topology

HazardWatch System Overview

The HazardWatch System is designed with Rockwell Automation's industry proven Allen-Bradley ControlLogix™ programmable logic controller (PLC) technology and our advanced gas and flame detection field devices. Offering intelligence, flexibility, and reliability, the system's controller hardware configuration and software have been tested by Factory Mutual to verify NFPA (2013) 72 compliance.

The principal elements of the HazardWatch System include:

- Stand-alone local fire and gas alarm panel with touch screen operator interface
- Power supply and battery back-up to support the fire and gas system per NFPA 72
- Optional HazardNet dual media Ethernet (CAT 6 or fiber optic) fault-tolerant communication network, which supports communication panels internal communication between the local gas and flame panels and the optional HazardWatch Central Station
- Optional computer-based HazardView Workstation (with AC-powered UPS) to provide FM-approved central station monitoring
- Scalable from small systems to large plants
- Link up to 15 local gas and fire alarm panels over a network up to 6.2 mi. (10 km) long
- Easy integration with third party auxiliary devices such as horns, beacons, and fire suppression systems
- FM-approved Modbus or Ethernet/IP system communications to DCS or ESD Systems
- HART® sensor communication support

The system's local and network communications equipment are based on Ethernet/IP and Device Level Ring, a widely used high-speed, industrially-hardened control and communication protocol.

A More Reliable Safety Solution

The HazardWatch System combines the proven expertise of the industry's leaders in safety and automation. Developed with our gas/ flame detection and systems integration expertise, as well as the process control/automation expertise of Rockwell Automation, the HazardWatch System is a powerful and flexible total safety solution. You can count on HazardWatch to ensure the safety of your people, equipment, and facility.

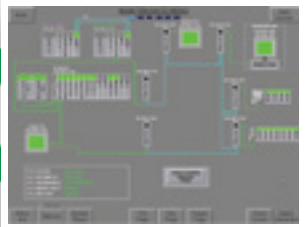


Wall mounted NEMA 12 enclosure. Customer connections made at rail mounted "swing link" terminal blocks organized by input/output type. PLC processor and touchscreen fitted with non-volatile memory.



Features

- NFPA 72-compliant
- NFPA 72-compliant user-friendly touchscreen interface
- Approvals: FM, CSFM
- Addressable loop for buildings
- ControlLogix™ PLC platform
- HazardNet communications
- TUV-approved SIL 2 version available





A Powerful, Versatile Solution with Design Flexibility

Configuration Options

- Single rack
- Single processor, multiple I/O rack
- Dual processor, multiple I/O rack
- Single or dual processor, remote display and/or I/O racks

From distributed control to network communications, to control software, to operator interfaces to field devices, HazardWatch is the complete answer in a wide range of applications:

- | | |
|----------------------------|-------------------------------|
| • Offshore Platforms | • Tanker Loading/Unloading |
| • Refineries and Pipelines | • Chemical Plants |
| • Gas Compressor Stations | • Electric Power Plants |
| • Storage Facilities | • Aircraft Maintenance Areas |
| • LNG Facilities | • Aerospace Launch Facilities |
| • CNG Fueling Terminals | • Automotive Plants |

Modular Total Safety Solution

HazardNet Device Level Ring

Redundant Fault-Tolerant Communication

- Copper or fiber media
- Distances up to 6.2 mi. (10 km)
- 10/100 Mbit bandwidth

Fault Management for Device Level Ring Networks

Allen Bradley's Device Level Ring (DLR) modules provide fault-tolerant, self-healing communications through diagnostic monitoring of the communication. DLR uses ultra-high-speed detection and isolation of points of communication failure anywhere on the network. The DLR modules re-route around communication failures in ring network configuration. They automatically redirect network traffic around points of failure until the failure conditions are corrected and then system automatically restores the communication network to its original traffic pattern. Communication continuity is unconditionally maintained by the DLR fiber network in the event of either node or media failure. This feature enables maintenance personnel to splice/terminate/replace fiber media; add/delete nodes, etc. on-line without disrupting network communications from other panels or HMIs.

The DLR protocol is a layer 2 protocol that provides link-level, physical redundancy that provides network convergence in the 1 to 3 msec for simple automation device networks. The other resiliency protocols apply to infrastructure only (switches and routers). DLR provides resiliency directly to an end device directly (such as an I/O module, drive, or controller).

Advanced Flame and Gas Detectors



**FL5000 MSIR
Flame Detector**

The FL5000 Multi-Spectrum Infrared (MSIR) Flame Detector provides superior false alarm immunity with the widest field of view utilizing neural network technology (NNT). Options include relays, Modbus, and HART.



**FL500 UV/IR
Flame Detector**

The FL500 UV/IR Optical Flame Detector offers high performance in a compact design with fast response times, increased false alarm immunity and wide field of view for reliable protection.



**FL500-H2 UV/IR Flame
Detector for Hydrogen**

The FL500-H2 is an Ultraviolet / Infrared Flame Detector designed specifically to detect hydrogen (H₂) fires. The FL500-H2 optical flame detector monitors for radiation emitted by a hydrogen flame in both the ultraviolet (UV) and infrared (IR) spectral ranges.



**IR5500 Open Path
Gas Detector**

The IR5000's advanced single beam sensing technology ensures high accuracy to eliminate drift and false alarms. It is ideally suited for monitoring tank farms, gas spheres, fence lines and rows of valves or pumps.



**Observer® i Ultrasonic
Gas Leak Detectors**

The Observer i Ultrasonic Gas Leak Detector offers fast detection of high pressure gas leaks without requiring the gas to come into contact with the detector. They are ideally suited for outdoor installations.



**General Monitors S5000
Gas Monitor***

The S5000 Gas monitor is a fixed gas transmitter which is ideal for extreme environments needing to detect oxygen, toxic and combustible gases. It operates over a wide temperature range using a variety of gas sensing technologies and can accommodate 2 sensors per transmitter.



**IR400 Hydrocarbon
Gas Detector**

The IR400 Infrared Point Detector features a fail-to-safe operation design to detect combustible gases within the lower explosive limit (LEL). No routine calibration is required, which reduces maintenance requirements. HART option available.



**ULTIMA® X5000
Gas Monitor***

The Ultima X5000 Gas Monitor features an advanced OLED display with touch controls, two sensor inputs, and MSA's patented XCell® Sensors with TruCal® technology.



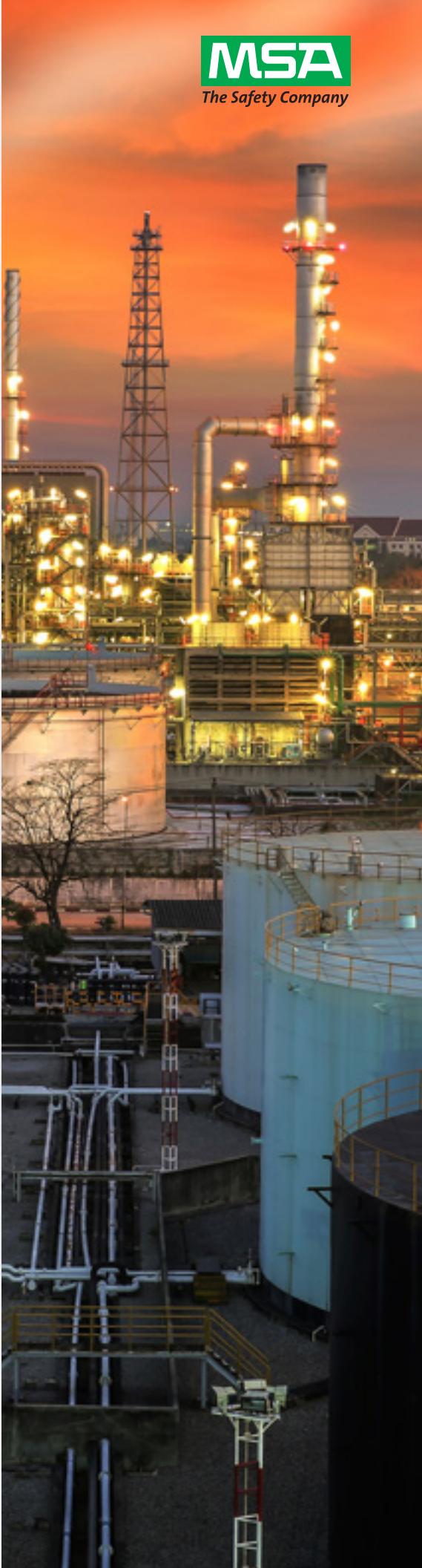
**Senscient ELDS Open Path
Gas Detector***

The Senscient ELDS Laser-Based Open Path Gas Detector is gas-specific for a number of toxic and flammable gases. Nuisance false alarms caused by weather are virtually eliminated with its break-through Harmonic Fingerprint processing.



**Senscient ELDS Methane
Specific Open Path Detector**

The Senscient ELDS Methane Open Path Gas Detector is FM performance approved for use in hazardous areas. It protects plants from the risk of explosion by detecting methane leaks faster and over a larger area.



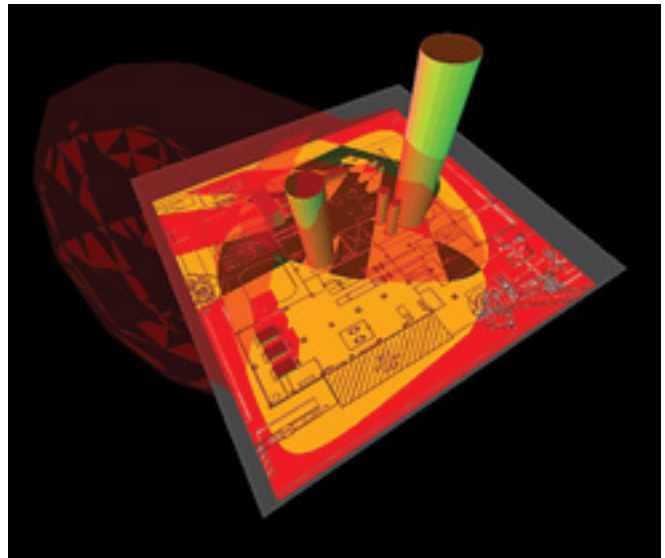
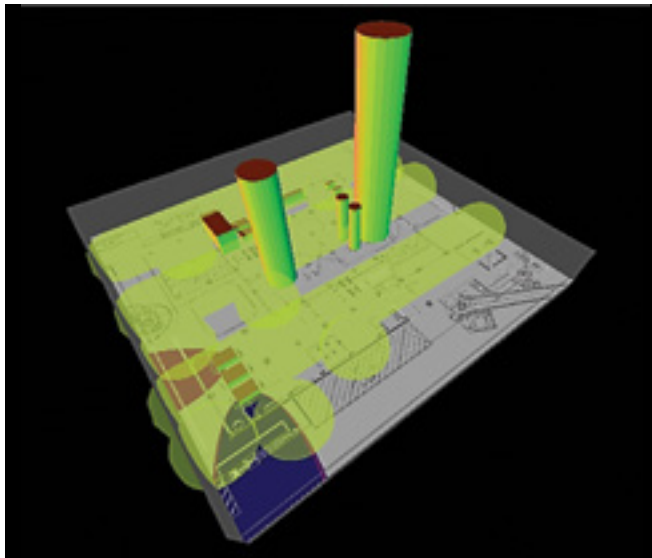
* The Factory Mutual approval of gas controller and fire alarm functionality of HazardWatch is based on using FM-approved versions of our flame and gas detectors with the system. Non-FM-approved flame and gas detectors may be electrically compatible and suitable for use with the HazardWatch system, but they are not FM-approved for use with the system.



Gas and Flame Mapping

For fire and gas systems to be effective, it is important that they offer a high likelihood of detecting the presence of any flame and gas hazards within monitored process areas. Determining the optimal quantity and location of flame and gas detectors is therefore critical to ensure the detection system's effectiveness.

MSA flame and gas mapping is a solution that assists in the evaluation of flame and gas risks. Mapping includes placing of gas and flame detectors in appropriate locations to achieve the best possible detection coverage. Through design iterations, the effects of different detector arrangements on detection coverage are quantified and assessed, stopping when the desired performance target is met.



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.

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>.

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