

TriGas X5000 **Monitoring System**



*NFPA 820 Compliance Solutions for Pumping Stations
and Wet Wells Associated with Wastewater Treatment Plants*

WE KNOW WHAT'S AT STAKE.

TriGas **Monitoring System**

The MSA TriGas X5000 Monitoring System is an integrated combustible gas monitoring product to meet compliance to NFPA 820: Standard for Fire Protection in Wastewater Treatment and Collection Facilities. Achieving NFPA 820 Compliance with TriGas X5000 Monitoring System solutions for pumping stations, lift stations, influent headworks and wet wells associated with wastewater treatment plants that are all subject to flooding is ideal for the TriGas X5000 Monitoring System with sample draw.

The system monitors for combustible gases (i.e. methane (CH₄) or petroleum vapors), hydrogen sulfide (H₂S), and oxygen (O₂). The system is specifically designed for optimum performance while sampling in high-moisture environments and poor access areas. With additional features, the TriGas X5000 Monitoring System also takes into consideration placement in both NEC Class 1, Div. 1 and 2 hazardous classification areas to comply with NFPA 70: National Electric Code and NFPA 497: Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Area when standard practice dictates separation of electronics from sources of gas leaks.

TriGas X5000 Standard System Description

The standard TriGas X5000 Monitoring System with sample draw consists of three Ultima X5000 Gas Monitor sensors with onboard relays to provide a local alarming system and direct interface to plant control systems. The standard TriGas Monitoring System is single or dual zone (two independent sampling systems) designed for sampling from a NEC Class 1, Div. 2 area with placement in a General Purpose Electrical Classification area. The system is mounted within a single NEMA 4X stainless steel enclosure with viewing window to include:

- Zone 1 (high): single sensor X5000 gas monitor; 0-100% LEL CH₄
- Zone 2 (low): dual sensor X5000 gas monitor; 0-50 ppm H₂S and 0-25% O₂
- Two DC pumps for dual zone
- Red strobe
- Buzzer
- Horn silence button
- 4-20 mA/HART output
- Two End-of line water-stop filters
- Power supply
- Explosion-proof heater for freeze protection
- NEMA 4X stainless steel enclosure
- Flashback arrestors
- Common relays



TriGas X5000 System

The TriGas X5000 Monitoring System is designed to be able to accept samples from a NEC Class 1, Div. 2 areas from wet wells with open channels that have hazardous classification reduced by the proper amount of air exchanges required.

In addition, the TriGas X5000 Monitoring System has available options to include:

- Capability with added protection to install in NEC Class 1, Division 1 or 2 areas or handle samples from NEC Class 1, Division 1 areas where combustible gas is always present
- Addition of alarm relay contacts to meet needs of more complex alarming logic
- Additional water separator filters



TriGas X5000 System (Inside Enclosure)



TriGas Lite Flow Panel

TriGas Lite Flow Panel

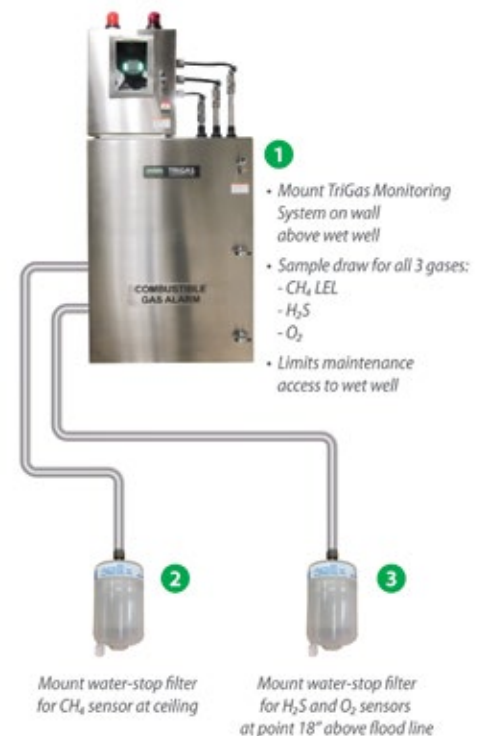
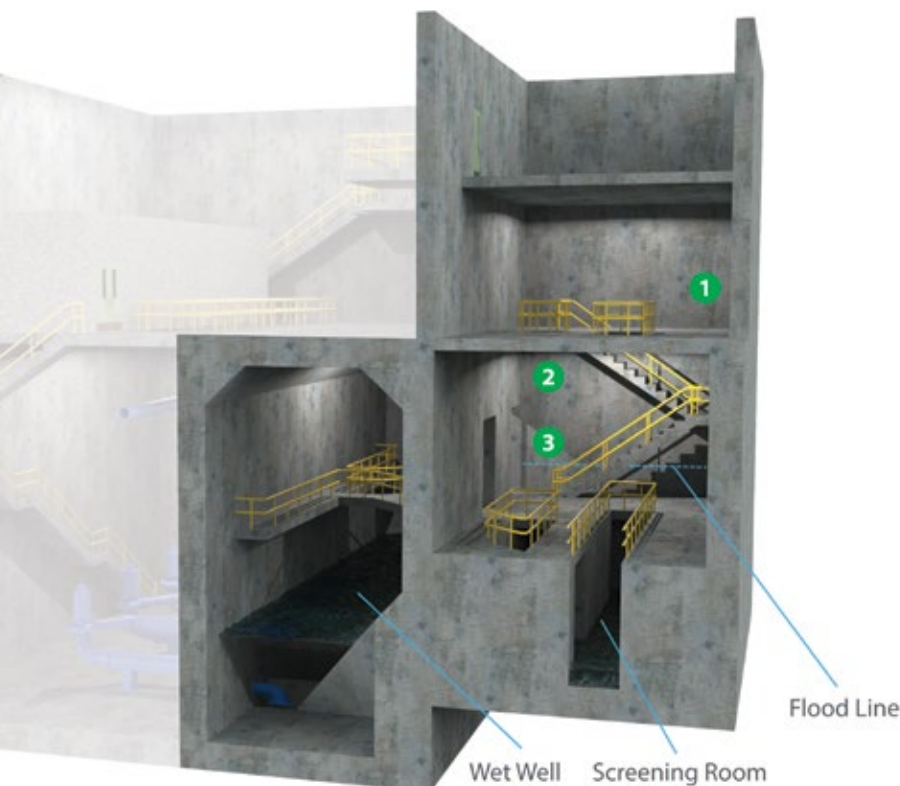
In pumping station applications where the end-user does not have the need to house TriGas system components within a wall-mounted enclosure and only require minimal features, the MSA TriGas Flow Panel (TriGas Lite) can be offered to meet basic NFPA 820 compliance.

The TriGas Lite plate-mounted system can be installed in NEC Class 1, Division 1 and 2 areas and includes the ULTIMA X5000 Gas Monitor(s), DC pump, flow meter, three-way calibration valve and end-line filter.

With additional mounting feet and handle, the TriGas Lite unit can be placed near the confined space entrance, alerting workers as to the confined space's atmospheric conditions. This solution can be used to comply with OSHA: Standard 1910.148 Appendix E Sewer System Entry guidelines when fixed gas monitoring is required.

Additional Applications

For dry wells and applications where a gas monitoring station is required with use of remote sensors, mounting the ULTIMA X5000 Gas Monitor on a MSA plate assembly with power supply, horns and strobes is an ideal solution to meet site compliance to NFPA 820 standards. The dual remote sensor option of the ULTIMA X5000 Gas Monitor whether mounted in ambient air or ducts can extend to 328 feet away from the transmitter. A complete assembly pre-wired supplied with engineered drawings saves contractor installation costs.



Specifications

SENSOR MEASURING RANGES	
INFRARED	0–100% LEL CH ₄
XCELL TOXIC	0–50 ppm H ₂ S
XCELL O ₂	0–25% O ₂
SIGNAL OUTPUT	4–20 mA, HART, HART 7 device description language available
TYPICAL SENSOR LIFE	
XCELL SENSORS	5 years
INFRARED	10 years
OPERATING TEMPERATURE RANGE	
WITHOUT HEATER	32°F to 113°F (0°C to 45°C)
WITH HEATER	-20°F to 120°F (-29°C to 49°C)
POWER SUPPLY	120 VAC, 60 Hz, 2–16 amps, or 24 VDC (optional)
RELAY CONTACTS	5 amps @ 120 VAC or 30 VDC Warning, alarm, horn, fault, flow failure
APPROVALS CLASSIFICATION	Meets NPFA 820 guidelines and has options to draw sample and install in NEC Class I Div. 1 and Div. 2 areas
ENCLOSURE RATING	NEMA 4X
SENSOR WARRANTY	
X5000 TRANSMITTER	2 years
XIR PLUS	10 years source, 5 years electronics
XCELL SENSORS	3 years
DIMENSIONS	
DUAL ZONE	60" W x 36" H x 12" D (1524 x 914 x 305 mm) typical
SINGLE ZONE	36" W x 30" H x 8" D (914 x 762 x 203 mm) typical <i>Size may vary</i>

Note: This is a representative description of this product and its possible applications. Contact your local MSA representative for information concerning customization this unit to fit your specific need.

ULTIMA® X5000 Gas Monitor Advantage

The ULTIMA X5000 Gas Monitor takes gas detection to a whole new level.

- New design featuring an Organic LED (OLED) display and bright status LEDs for extreme visibility.
- An industry first—a touch-button interface for an intuitive user experience and tool-free operation.
- TruCal technology actively monitors the sensor integrity and compensates for environmental factors that cause regular electrochemical sensors to drift.
- XCell TruCal sensors automatically self-check 4x/day.
- Reduces downtime.
- Three year warranty on XCell® Sensors.
- SafeSwap enables safe and quick replacement of gas sensors without turning off the instrument.
- Dual sensor capability doubles the sensing power with half of the footprint of a single gas transmitter.
- Bluetooth wireless technology allows mobile device to act as an HMI screen and controller. The X/S Connect App is designed with high security standards and provides real-time information to your mobile device.
- Check status and get alerts up to 75 ft. (23 m) away.
- Reduce set-up time by at least 50%.
- Identical footprint and wiring as the ULTIMA X Series makes retrofits simple using the existing conduit and wiring as well as an integral mounting bracket.



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.

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