Ultima X Series Gas Monitors

State-of-the-art technology for any gas detection need

Ultima X Series Gas Monitors, engineered using microprocessor-based technology for detection of combustible and toxic gases and oxygen deficiency, provide HART Field Communications Protocol. HART Protocol provides increased sensor data and convenient setup, calibration and diagnostics. HART Protocol also enables use of existing wiring, reducing installation costs.

Features

- Patented sensor disconnect-under-power allows for sensor changeout without declassifying a hazardous area.
- Interchangeable **smart** sensors can be replaced in the field without use of tools. Unit quickly recognizes the new sensor type and reconfigures alarm and relay settings to optimize the new sensor.
- Liquid crystal display conveniently alternates between sensor reading and gas type, and features scrolling messaging to indicate ongoing diagnostic checks such as sensor "end-of-life" condition.
- World-class design features single-board design for ultimate reliability and serviceability. Multiple-entry mounting enclosure is designed to separate electronics and sensor, allowing for problem-free installation and servicing.
- Onboard optional quick-check LEDs and four relay outputs allow for increased indication of alarm and fault conditions.

Three Models:

Ultima XE Monitor: Explosion-proof stainless steel gas detector with display

Ultima XA Monitor: Water- and corrosion-resistant, all-purpose, polycarbonate gas detector with display

Ultima XIR Monitor: Explosion-proof stainless steel, infrared gas detector with display

Ultima X$^{3®}$ Technology for Ultima X Series Gas Monitors features:

Multi-sensing

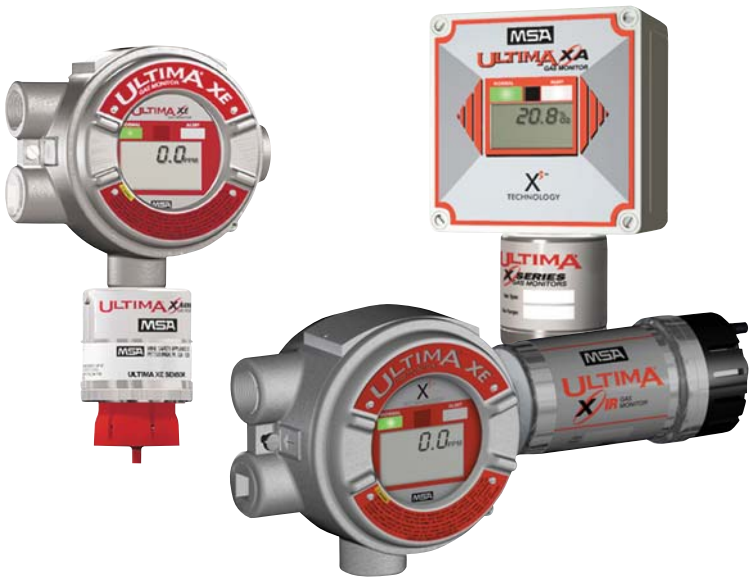
- System can handle 93 sensors (up to 31 monitors with up to three sensors per monitor)
- Accepts any combination of electrochemical, catalytic and infrared sensors
- Scrolling display shows type and reading for all sensors
- Ultima X^3 Monitor operates as a slave device on the network

Signal boost

- Each sensor can be observed remotely up to 3,000 ft. from the monitor
- Universal 85-256 VAC or 7-30 VDC power supply available at remote condulet

Modbus RTU Output

- Industry-standard format
- Provides RS-485 half-duplex communication interface
- Integration into PLC/DCS systems



Specifications for Ultima XE, Ultima XA and Ultima XIR Gas Monitors		
GAS TYPES	XE XA combustibles, oxygen and toxics XIR combustibles 0-100% LEL	
TEMPERATURE RANGE	-40°F to 140°F (-40°C to 60°C) (typical range for some gases may differ)	
DRIFT		
ZERO DRIFT	XE, XA	<5%/year, typical
	XIR	±2%/year, typical
SPAN DRIFT	XE, XA	<10%/year, typical
NOISE	<1% full scale	
ACCURACY		
REPEATABILITY	XE, XA, XIR	±1% full scale or 2 ppm, typical
LINEARITY	XE, XA	±2% full scale or 2 ppm, (O_2, CO)
	XIR	±2% full scale (≤50% LEL)
	XE, XA	±3% full scale (<50% LEL combustibles)
	XE, XA, XIR	±5% full scale (>50% LEL combustibles)
	XE, XA	±10% full scale or 2 ppm, (non-CO toxics)
RESPONSE TIMES		
T20 O_2 & TOXICS	XE, XA	<12 seconds (typically 6 seconds)
T50 O_2 & TOXICS	XE, XA	<30 seconds (typically 12 seconds)
T50 COMBUSTIBLE	XE, XA	<8 seconds
T90 COMBUSTIBLE	XE, XA	<30 seconds
T90 COMBUSTIBLE	XIR	<2 seconds
HUMIDITY	XE, XA	15%-95% RH, non-condensing
	XIR	0%-95% RH, non-condensing
SENSOR LIFE		
OXYGEN & TOXICS	XE, XA	2 years typical
COMBUSTIBLE	XE, XA	3 years typical
COMBUSTIBLE	XIR	5 years typical
WARRANTY	XE, XA	1 year
	XIR	2 years
	XIR, XI	10 years (IR source only)
POWER INPUT	XE, XA	10-30 VDC (oxygen and toxics)
	XE, XA	10-30 VDC @ 450 mA maximum (combustibles)
	XIR	10-30 VDC @ 750 mA maximum (combustibles)
WIRING REQUIREMENTS		
COMBUSTIBLE	XE, XA, XIR	3-wire
OXYGEN & TOXICS	XE, XA	2-wire; no LEDs or relays
OXYGEN & TOXICS	XE, XA	3-wire; LEDs and/or relays
SIGNAL OUTPUT	XE, XA	4-20 mA 2-wire current sink
	XE, XA, XIR	4-20 mA 3-wire current source
RELAY CONTACT RATING	5amp @ 220 VAC; 5 amp @ 30 VDC	
HOUSING ENTRIES	XE, XIR	4 conduit entries, ¾" NPT or 25 mm
	XA	1 entry
PHYSICAL		
	XE	316 stainless steel; 10.4 lbs (4.7 kg); 6.3" W x 3.9" D x 10.3" L (160 x 99 x 261 mm)
	XA	Polycarbonate; 1.5 lbs (0.68 kg); 5.1" W x 2.9" D x 9.4" L (130 x 76 x 239 mm)
	XIR	316 stainless steel; 10.8 lbs (4.9 kg); 12.6" W x 3.9" D x 5.7" L (320 x 99 x 144 mm)
APPROVAL RATINGS	XE	FM UL 1203 CSA
INCLUDES X³ TECHNOLOGY		Class I, Div. 1 & 2, Groups A, B, C, & D Class II, Div. 1, Groups F, G Class III
		CSA C22.2 No. 152 C22.2-30 Class I, Div. 1, Groups A, B, C, & D
	XA	NEMA 4X rating
	XIR	UL 1203 & CSA C22.2-30 Class I, Div. 1 & 2, Groups A, B, C, & D; Class II, Div.1, Groups E, F, & G;
		Class III CSA C22.2 No. 152 Class I, Div. 1 & 2, Groups B, C, & D
	XE & XIR	EN 50018 Class I, Zone 1, Group IIC
	XE, XA, XIR	CE Low Voltage Directive: 73/23/EEC, CE EMC Directive: 89/336/EEC
NOT INCLUDING X³ OR HART PRODUCTS	XE, XA, XIR	SIL 2 certification

Ultima X Series Sensor X-Change Program

Easily exchange sensors on demand

With the Ultima X Series Sensor X-Change Program, you receive replacement calibrated sensor modules when needed, on demand. Sensors arrive prior to the Ultima X Gas Monitor's scheduled calibration due date for easy installation and minimal downtime. Simply replace the old sensor with the new, perform a gas check and the system is operational.

How the Program Works

1. Replacement sensor modules are shipped at pre-determined intervals of three, four, six, and 12 months. Sign a program agreement for your choice of one, two or three years. Some restrictions apply; contact your sales representative for more information.
2. Receive a pre-calibrated sensor module plus complete calibration documentation in a returnable, pre-labeled container.
3. The shipping container that identifies the sensor type is used for return of the old sensor module.

Benefits

- Eliminates the need to perform initial field calibrations
- Reduces overall maintenance time
- Greatly reduces calibration cylinder requirements
- Eliminates the need to dispose of sensor modules
- Ensures that the installed sensor base has been factory-calibrated by trained MSA technicians prior to operation
- All Ultima X **Smart** Sensors using catalytic bead and electrochemical technologies are available through this program

Gas Types for Ultima X Series Sensor X-Change Program	
AMMONIA	0-50 ppm
AMMONIA	0-100 ppm
AMMONIA	0-1000 ppm
ARSINE	0-2 ppm
BROMINE	0-5 ppm
CARBON MONOXIDE	0-100 ppm
CARBON MONOXIDE	0-500 ppm
CARBON MONOXIDE	0-1000 ppm
CHLORINE	0-5 ppm
CHLORINE	0-10 ppm
CHLORINE	0-20 ppm
CHLORINE DIOXIDE	0-3 ppm
COMBUSTIBLE GAS	0-100% LEL
NATURAL GAS & HYDROGEN	0-100% LEL
PETROLEUM VAPORS	0-100% LEL
DIBORANE	0-50 ppm
ETHYLENE OXIDE	0-10 ppm
FLUORINE	0-5 ppm
GERMANE	0-3 ppm
HYDROGEN FLUORIDE	0-10 ppm
HYDROGEN	0-1000 ppm
HYDROGEN CHLORIDE	0-50 ppm
HYDROGEN CYANIDE	0-50 ppm
HYDROGEN SULFIDE	0-10 ppm
HYDROGEN SULFIDE	0-50 ppm
HYDROGEN SULFIDE	0-100 ppm
HYDROGEN SULFIDE	0-500 ppm
NITRIC OXIDE	0-100 ppm
NITROGEN DIOXIDE	0-10 ppm
OXYGEN	0-10%
OXYGEN	0-25%
OXYGEN -CO_2 TOLERANT	0-25%
OXYGEN -SOLVENT & CO_2 TOLERANT	0-25%
PHOSGENE	0-1%
PHOSPHINE	0-2 ppm
SILANE	0-25 ppm
SULFUR DIOXIDE	0-25 ppm
SULFUR DIOXIDE	0-100 ppm