

Ultima[®] XL/XT Series Gas Monitors

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MSA
The Safety Company



Economical and continuous gas monitors with HART Field Communications Protocol. Single-sensor units use catalytic, electrochemical, and infrared gas detection technologies for combustible and toxic gases and for oxygen deficiency.

**Ultimate features.
Extreme design.
Reliable and affordable.**

Ultima XL/XT Series Gas Monitors offer an affordable choice in continuous gas detection and monitoring while retaining key features of MSA's Ultima X Series Gas Monitors. 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 is explosion-proof with a stainless steel enclosure, while the Ultima XT Gas Monitor uses a general purpose plastic housing. The conduit for the Ultima XL Gas Monitor has three entryways for sensor module, intrinsically safe HART port, and signal/power wiring.

These versatile units are well-suited for both indoor and outdoor applications within oil and gas, chemical and petrochemical facilities, refineries, steel mills, water and wastewater treatment plants, general industry, and many others.

Key Features

- 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

Calibration Options

- Internal push-button and LEDs provide local intrusive calibration
- Utilize handheld communicator, host DCS or laptop
- Sensor X-change program
- Automatic calibration adjustments and date stamping
- Selectable lockout of output signal during calibration

Ultima® XL/XT Series Gas Monitors

(Ultimate Features...Extreme Design)



Ultima XL Gas Monitor – Explosion-Proof Stainless Steel Gas Detector

The Ultima XL Gas Monitor offers:

- 316 Stainless steel
- Multiple-entry mounting enclosure
- Intrinsically safe HART port



Ultima XT Gas Monitor – Water- and Corrosion-Resistant, All-Purpose, Polycarbonate Gas Detector

The Ultima XT Gas Monitor offers:

- Nema 4X rating
- Light-weight (Only 1.75 lbs)
- HART port



Ultima XL IR Combustible Gas Monitor – Explosion-Proof Stainless Steel, Infrared Gas Detector

The Ultima XL IR Gas Monitor offers:



- 316 Stainless steel
- Multiple-entry mounting enclosure
- Intrinsically safe HART port
- Fast response time
- Operation based on dual-wavelength, heated-optics technology, providing definitive compensation for temperature, humidity, and aging effects
- IR technology offers excellent long-term stability, eliminating the need for frequent calibrations
- A sintered-disk-free design for optimum performance in harsh environments
- No-gas calibration, a zero adjustment is all that is required for full calibration
- IP67 Rated – protected from temporary immersion in water

Gases

- * 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
- IR Combustible Gas - Methane-
0-100% LEL
- IR Combustible Gas - Non Methane-
0-100% LEL
- Combustible Gas- 0-100% LEL
Natural Gas and H₂
- Combustible Gas- 0-100% LEL
Petroleum Vapors
- Combustible Gas- 0-100% Solvents
- * Diborane- 0-50 PPM
- * ETO- 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
- Hydrogen Sulfide - solid state-
0-100 PPM
- Nitric Oxide- 0-100 PPM
- Nitrogen Dioxide- 0-10 PPM
- Oxygen- 0-10% - compensated
- Oxygen- 0-25% - compensated
- Phosphine- 0-2 PPM
- Silane- 0-25 PPM
- Sulfur Dioxide- 0-25 PPM
- Sulfur Dioxide- 0-100 PPM

* These gases not available in the XL model

Specifications (for Ultima XL, Ultima XT and Ultima XLIR)

Gas Types	XL, XT	Combustibles, oxygen and toxics
	XLIR	Combustibles; 0-100%LEL
Temperature Range	-40°C to +60°C (-40°F to +140°F) (Typical-range for some gases may differ)	
Drift		
Zero Drift	XL, XT	<5%/year, typical
	XLIR	±2%/year, typical
Span Drift	XL, XT	<10%/year, typical
Noise	<1% Full Scale	
Accuracy		
Repeatability	XL, XT, XLIR	±1%Full Scale or 2ppm, typical
Linearity	XL, XT	±2%Full Scale or 2ppm, (O ₂ , CO)
	XLIR	±2%Full Scale (≤50% LEL)
	XL, XT	±3%Full Scale (<50% LEL combustibles)
	XL, XT, XLIR	±5%Full Scale (>50% LEL combustibles)
	XL, XT	±10%Full Scale or 2ppm, (non-CO toxics)
Response Times		
T20 O ₂ & toxics	XL, XT	<12 seconds (typically 6 seconds)
T50 O ₂ & toxics	XL, XT	<30 seconds (typically 12 seconds)
T50 combust.	XL, XT	<10 seconds
T90 combust.	XL, XT	<30 seconds
T90 combust.	XLIR	<2 seconds
Humidity		
	XL, XT	15%-95% RH, non-condensing
	XLIR	0%-95% RH, non-condensing
Sensor Life		
Oxygen & Toxics	XL, XT	2 years typical
Combust.	XL, XT	3 years typical
Combust.	XLIR	5 years typical
Warranty	1 year XL, XT; 10 years XLIR (IR source only)	
Power Input		
	XL, XT	8-30VDC (oxygen and toxics)
	XL, XT	8-30VDC @ 450mA maximum (combustibles)
	XLIR	8-30VDC @ 750mA maximum (combustibles)
Wiring Requirements		
Combust.	XL, XT, XLIR	3-wire; LEDs and no relays
Oxygen & Toxics	XL, XT	3-wire; LEDs and no relays
Signal Output	XL, XT, XLIR	4-20mA 3-wire current source, HART
Housing Entries		
	XL, XLIR	Three conduit entries, 3/4" NPT or 25mm
	XT	Two entries
Physical		
	XL	316 Stainless Steel; 7.7lbs (3.5kg) 7.1"W x 4.1"D x 8.8"L (180 x 103 x 224mm)
	XT	Polycarbonate; 1.75lbs (0.79kg) 6.2"W x 3.0"D x 9.4"L (157 x 76 x 239mm)
	XLIR	316 Stainless Steel; 8.0lbs (3.6kg) 11.4"W x 4.1"D x 6.3"L (288 x 104 x 159mm)
Approval Ratings		
	XL	USA/Canada  APPROVED Class I, Div. 1 & 2, Groups A, B, C, & D Class I, Zone 1 & 2, Groups IIC, IIB & IIA, T6 Type 4X, IP 66
		Europe  II 2G, 3G, EEx d nA [ib] IIC T6 IP 66
		International IEC EX scheme Ex d nA [ib] IIC T6 IP 66

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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