Ultima® XL/XT Series Gas Monitors

MSA
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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 condulet 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 petro-chemical 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

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(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

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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, (O2, 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 O2 & toxics	XL, XT	<12 seconds (typically 6 seconds)
T50 O2 & 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	Class I, Div. 1 & 2, Groups A, B, C, & D
			Class I, Zone 1 & 2, Groups IIC, IIB & IIA, T6
		(FM APPROVED)	Type 4X, IP 66
		Europe	II 2G, 3G, EEx d nA [ib] IIC T6
		(Ex)	IP 66
		International	IEC EX scheme
			Ex d nA [ib] IIC T6
			IP 66

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