ULTIMA® XL/XT Series Gas Monitors

[Ultimate Features – Extreme Design]

MSA
The Safety Company

Cost effective fixed installation gas monitors with HART Field Communications Protocol. Single-sensor units use catalytic, electrochemical and infrared gas detection technologies for detection of 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 and sensors of MSA's ULTIMA X Series Gas Monitors. HART Field Communications Protocol running over 4 – 20 mA output provides convenient setup, calibration, and diagnostics. The handheld 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 enclosure for the ULTIMA XL Gas Monitor has three entryways for sensor, 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 – 20 mA 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
- Automatic calibration adjustments and date stamping
- Selectable lockout of output signal during calibration

ULTIMA® XL/XT Series Gas Monitors

[ULTIMA XL Gas Monitor –
Explosion-Proof Stainless Steel Gas Detector]

- 316 Stainless Steel
- Multiple-entry mounting enclosure
- Intrinsically safe HART port
- IP 66 rated

[ULTIMA XT Gas Monitor – Water- and Corrosion-
Resistant, All-Purpose, Polycarbonate Gas Detector]

- Nema 4X-IP 56 rating
- Light-weight [only 0.8 kg]
- HART port

[ULTIMA XL IR Combustible Gas Monitor –
Explosion-Proof Stainless Steel, Infrared Gas Detector]

- 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
- Minimum downtime for gas calibration, a zero adjustment is mostly all that is required for full calibration
- IP 66 rated

[Technical Specifications]

Gas Types	XL, XT	Combustibles, oxygen and toxics	
	XL IR	Combustibles; 0–100% LEL	
Temperature Range	XL, XT, XL IR	–40 °C to +60 °C [–40 °F to +140 °F]	
		[Typical – range for some gases may differ]	
Drift			
Zero Drift	XL, XT	<5% per year, typical	
	XL IR	±2% per year, typical	
Span Drift	XL, XT	<10% per year, typical	
Noise	XL, XT, XL IR	<1% Full Scale	
Accuracy			
Repeatability	XL, XT, XL IR	±1% Full Scale or 2 ppm, typical	
Linearity	XL, XT	±2% Full Scale or 2 ppm, [O_2, CO]	
	XL IR	±2% Full Scale [<50% LEL]	
	XL, XT	±3% Full Scale [<50% LEL combustibles]	
	XL, XT, XL IR	±5% Full Scale [>50% LEL combustibles]	
	XL, XT	±10% Full Scale or 2 ppm, [non-CO toxics]	
Response Times			
τ_{20} O_2 & toxics	XL, XT	<12 seconds [typically 6 seconds]	
τ_{50} O_2 & toxics	XL, XT	<30 seconds [typically 12 seconds]	
τ_{50} combustibles	XL, XT	<10 seconds	
τ_{90} combustibles	XL, XT	<30 seconds	
τ_{90} combustibles	XL IR	<2 seconds	
Humidity	XL, XT	15% – 95% RH, non-condensing	
	XL IR	0% – 95% RH, non-condensing	
Sensor Life			
Oxygen & Toxics	XL, XT	2 years typical	
Combustibles	XL, XT	3 years typical	
Combustibles	XL IR	5 years typical	
Power Input	XL, XT	8 – 30 VDC [oxygen and toxics]	
	XL, XT	8 – 30 VDC @ 450 mA maximum [combustibles]	
	XL IR	8 – 30 VDC @ 750 mA maximum [combustibles]	
Wiring Requirements			
Combustibles	XL, XT, XL IR	3-wire; LEDs and no relays	
Oxygen & Toxics	XL, XT	3-wire; LEDs and no relays	
Signal Output	XL, XT, XL IR	4 – 20 mA 3-wire current source, HART	
Housing Entries	XL, XL IR	Three conduit entries, 3/4″ NPT or 25 mm	
	XT	Two entries	
Physical	XL	316 Stainless Steel; 3.5 kg; 180 x 103 x 224 mm [W x D x L]	
	XT	Polycarbonate; 0.8 kg; 157 x 76 x 239 mm [W x D x L]	
	XL IR	316 Stainless Steel; 3.6 kg; 288 x 104 x 159 mm [W x D x L]	
Warranty	XL, XT	1 year	
	XL IR	2 years	
Approval Ratings	XL	Europe	II 2 [2] G Ex d [ib] IIC T6
			II 3 [2] G Ex nA [ib] IIC T6
			IP 66
		USA/Canada	Class I, Div. 1 & 2, Groups A, B, C, & D
		FM C US APPROVED	Class I, Zone 1 & 2, Groups IIC, IIB & IIA, T6
			Type 4X, IP 66
		International	IEC EX scheme
			Ex d nA [ib] IIC T6
			IP 66

[Ordering Information]

		3/4" NPT	25 mm metric
ULTIMA XL Housing & PCB			
With HART port		10094883	10094885
Without HART port		10094884	10094886
ULTIMA XL Sensors			
Infrared Sensors			
Combustible Gases, Group 3	0 – 100% LEL	10044425	10044449
Combustible Gases, Group 4	0 – 100% LEL	10044426	10044450
Catalytic Sensors			
Combustible Gases, Group 1	0 – 100% LEL	10044423	10044447
Combustible Gases, Group 2	0 – 100% LEL	10044424	10044448
Electrochemical Sensors			
Arsine	0 – 2 ppm	10044428	10044452
Carbon Monoxide	0 – 100 ppm	10044364	10044433
Carbon Monoxide	0 – 500 ppm	10044365	10044434
Germane	0 – 3 ppm	10044430	10044454
Hydrogen	0 – 1000 ppm	10044432	10044456
Hydrogen Cyanide	0 – 50 ppm	10044422	10044446
Hydrogen Sulphide	0 – 10 ppm	10044368	10044440
Hydrogen Sulphide	0 – 50 ppm	10044369	10044442
Hydrogen Sulphide	0 – 100 ppm	10044420	10044444
Nitric Oxide	0 – 100 ppm	10044421	10044445
Oxygen	0 – 10%	10044366	10044436
Oxygen	0 – 25%	10044367	10044438
Phosphine	0 – 2 ppm	10044427	10044451
Silane	0 – 25 ppm	10044429	10044453
ULTIMA XT Complete Unit			
Ammonia	0 – 50 ppm	10095397	
Ammonia	0 – 100 ppm	10094890	
Ammonia	0 – 1000 ppm	10095398	
Arsine	0 – 2 ppm	10095401	
Bromine	0 – 5 ppm	10095370	
Carbon Monoxide	0 – 100 ppm	10095392	
Carbon Monoxide	0 – 500 ppm	10094887	
Carbon Monoxide	0 – 1000 ppm	10095393	
Chlorine	0 – 5 ppm	10094891	
Chlorine	0 – 10 ppm	10095399	
Chlorine	0 – 20 ppm	10095400	
Chlorine Dioxide	0 – 3 ppm	10095391	
Diborane	0 – 50 ppm	10095365	
Ethylene Oxide	0 – 10 ppm	10095366	
Fluorine	0 – 5 ppm	10095367	
Germane	0 – 3 ppm	10095402	
Hydrogen	0 – 1000 ppm	10095403	
Hydrogen Chloride	0 – 50 ppm	10095369	
Hydrogen Cyanide	0 – 50 ppm	10095363	
Hydrogen Fluoride	0 – 10 ppm	10095368	
Hydrogen Sulphide	0 – 10 ppm	10095394	
Hydrogen Sulphide	0 – 50 ppm	10095395	
Hydrogen Sulphide	0 – 100 ppm	10094888	
Hydrogen Sulphide	0 – 500 ppm	10095396	
Nitric Oxide	0 – 10 ppm	10095404	
Nitrogen Dioxide	0 – 10 ppm	10094892	
Oxygen	0 – 10%	10095303	
Oxygen	0 – 25%	10094889	
Phosphine	0 – 2 ppm	10095405	
Silane	0 – 25 ppm	10095406	
Sulphur Dioxide	0 – 25 ppm	10095407	
Sulphur Dioxide	0 – 100 ppm	10095408	
ULTIMA XL Accessories			
Mounting bracket			10047562
Duct mount kit			on request
Mounting bracket with duct mount kit			on request
SensorGard for XL/XE			10028904
SensorGard for XLIR/XIR			10041265
Flow cap for XL/XE			10041866
Flow cap for XLIR/XIR			10042600

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.