

# SIEMENS

SIEMENS INDUSTRY, INC.

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LITTLETON, COLORADO 80127

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**CU ANSCHUTZ MEDICAL CAMPUS**

**RESEARCH 1 AND 2 OA SENSOR ADD**  
44OP-259563

**SPECIFICATION SECTION**  
N/A



Mine Safety Appliances Company, LLC  
1000 Cranberry Woods Drive  
Cranberry Township, PA 16066

## Quotation

### Offer To / Purchaser:

Price/Availability (US)  
DO NOT USE FOR ORDER PROCESSING  
Street  
Pittsburgh PA 15230

Date: 06 Feb 2019

Quotation No.: 20883224

Customer No.: 182120

Valid from: 06 Feb 2019

Valid to: 07 Apr 2019

Customer Ref.: QT

Your Contact Person: Thomas

Telephone No.:

Fax No.:

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Item	Qty	UM	Mat No.	Description	
10	2	EA		A-ULTIMAX-PL GAS MONITOR, ULTIMA X, PLASTIC, CONFIG. Country of Origin: US Commodity Code: 9027.10.2000 Export Control Code: EAR99 A-ULTIMAX-PL:-A-11-0-3-S-1-0-0-0-1-1-0-0 With the following configuration: MODEL A GP PLASTIC, W/ DISPLAY GAS CODE 11 CO - 0-100 ppm CONFIGURATION - ENCLOSURE 0 STANDARD SENSOR OUTPUT 3 3-WIRE mA OUTPUT SENSOR MOUNTING STYLES S SENS MOUNT ON CONTROL UNIT RELAYS AND LEDS 1 LEDS, NO RELAYS DISPLAY LANGUAGE/FEATURES 0 ENGLISH OPTIONAL POWER SUPPLY 0 NONE GAS SAMPLE SELECTION 0 NONE - STD DIFFUSION METHOD	

### Attention:

THIS QUOTATION/OFFER TO SELL INCORPORATES BY REFERENCE THE TERMS AND CONDITIONS INCLUDED WITH THIS DOCUMENT. YOUR PLACEMENT OF AN ORDER FOR THESE GOODS OR SERVICES CONSTITUTES YOUR ACCEPTANCE OF THE TERMS AND CONDITIONS.

# Quotation

Quotation No.: 20883224

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Item	Qty	UM	Mat No.	Description	
				INTEGRATED ACCESSORIES 1 PUSHBUTTON SWITCH INSTALLATION HARDWARE 1 MOUNTING BRACKET MANUALS 0 STANDARD CUSTOM FEATURES 0 NONE	
30	2	EA	A-ULTIMAX-PL	GAS MONITOR, ULTIMA X, PLASTIC, CONFIG. Country of Origin: US Commodity Code: 9027.10.2000 Export Control Code: EAR99 A-ULTIMAX-PL:-A-72-0-3-S-1-0-0-0-1-1-0-0 With the following configuration:	
				MODEL A GP PLASTIC, W/ DISPLAY GAS CODE 72 NITROGEN DIOXIDE 0-10 ppm CONFIGURATION - ENCLOSURE 0 STANDARD SENSOR OUTPUT 3 3-WIRE mA OUTPUT SENSOR MOUNTING STYLES S SENS MOUNT ON CONTROL UNIT RELAYS AND LEDS 1 LEDS, NO RELAYS DISPLAY LANGUAGE/FEATURES 0 ENGLISH OPTIONAL POWER SUPPLY 0 NONE GAS SAMPLE SELECTION 0 NONE - STD DIFFUSION METHOD INTEGRATED ACCESSORIES 1 PUSHBUTTON SWITCH INSTALLATION HARDWARE 1 MOUNTING BRACKET MANUALS 0 STANDARD CUSTOM FEATURES 0 NONE	
50	1	EA	A-CAL	CALIBRATION KIT, CONFIGURED Country of Origin: US Commodity Code: 9028.10.0000 Export Control Code: EAR99 A-CAL:-40-F-710882-00-0-710332-0	

**Attention:**

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# Quotation

Quotation No.: 20883224

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Item	Qty	UM	Mat No.	Description	
<p>With the following configuration:</p> <p>CALIBRATION KIT #1 SELECTION 40 DIFF.ULTIMAX (NON-CORROSIVE)</p> <p>REGULATOR #1 SELECTION F 1.50 LPM REGULATOR</p> <p>CAL.GAS#1 SELECTION(TYPE "RP") 710882 CO In Air - 60 ppm</p> <p>CALIBRATION KIT #2 SELECTION NO CALIBRATION KIT #2 SELECTED</p> <p>REGULATOR #2 SELECTION NO REGULATOR #2 SELECTED</p> <p>CAL.GAS#2 SELECTION(TYPE "RP") 710332 NO2 In Air - 5 ppm</p> <p>CUSTOM SELECTIONS 0 NO CUSTOM SELECTIONS</p>					
60	1	EA	10028028	CYLINDER,20.8% OXYGEN IN NITROGEN	
				Country of Origin: US	
				Commodity Code: 3822.00.6000	
				Export Control Code: EAR99	
70	1	EA	710332	Gas, 58L, 5PPM, Nitrogen Dioxide in Air	
				Country of Origin: US	
				Commodity Code: 3822.00.6000	
				Export Control Code: EAR99	
				*NOT RETURNABLE*	
<p>PLEASE SEND PURCHASE ORDERS TO <a href="mailto:perminstorder@msasafety.com">perminstorder@msasafety.com</a></p>					
<p><b>Terms of Payment: NET 30 DAYS</b></p> <p>Payable net within 30 days unless otherwise noted. No withholdings will be allowed without prior written consent of the seller.</p>			<p><b>Terms of Shipment: FOB DEST/PPD/A</b></p>		
<p><b>Attention:</b></p> <p>THIS QUOTATION/OFFER TO SELL INCORPORATES BY REFERENCE THE TERMS AND CONDITIONS INCLUDED WITH THIS DOCUMENT. YOUR PLACEMENT OF AN ORDER FOR THESE GOODS OR SERVICES CONSTITUTES YOUR ACCEPTANCE OF THE TERMS AND CONDITIONS.</p>			<p><b>Territory: US2624</b></p>		



The Safety Company

Mine Safety Appliances Company • 1000 Cranberry Woods Dr. • Cranberry Twp., PA 16066

## Ultima® X Series Gas Monitors – ATO Order Form

A-ULTIMA X-PL

1 2 3 4 5 6 7 8 9 10 11 12 13

### 1 Model

A = General Purpose Plastic, with display  
1 = General Purpose Plastic, no display

### 2 Gas Code

– See list for gas type

NOTE: Gas Code = 00 will include Enclosure(s), Electronics, and sensor body. No sensor assembly included. (Can't choose IR Sensors)

### 3 Configuration

0 = North American  
1 = European / International

### 4 Sensor Output

1 = 2-Wire mA output  
2 = 2-Wire (mA + HART) output  
3 = 3-Wire mA output  
4 = 3-Wire (mA + HART) output

### 5 Sensor Mounting Style

S = Sensor mounted on control unit  
D = Sensor mounted on general purpose remote housing

### 6 Relays and LEDs

0 = No relays and no LEDs  
1 = LEDs, no relays (Required if Model = T)  
2 = Relays and LEDs

### 7 Display Language/Features

0 = English  
S = Spanish  
H = English with custom horn software

### 8 Optional Power Supply

0 = None  
1 = 12 VDC Internal  
2 = 24 VDC Internal  
3 = 12 VDC External (Bracket not included)  
4 = 24 VDC External (Bracket not included)

### 9 Gas Sample Selection

0 = None – Standard diffusion method  
1 = Flow cap assembly

### 10 Integrated Accessories

0 = None  
1 = Reset/Cal switch

NOTE: HART port is included if matrix code 4 = 2 or 4

### 11 Installation Hardware

0 = None  
1 = Mounting bracket  
2 = Duct Mount Kit (includes installation kit)  
3 = Brackets + Duct Mount Kit (includes installation kit)  
4 = Nema 4X installation kit

### 12 Manuals – alternate quantities can be ordered separately

0 = Standard  
1 = Hardcopy + CD

### 13 Custom Features

0 = None  
C = Custom operation necessary  
T = Custom Tagging  
TC = Custom Tagging/Custom operations necessary  
CC = Certificate of calibration request



### Sensor Selection Table

0	None
11	Carbon Monoxide 0-100 PPM
12	Carbon Monoxide 0-500 PPM
= 13	Oxygen 0- 10%
= 14	Oxygen 0-25%
15	Hydrogen Sulfide 0-10 PPM
16	Hydrogen Sulfide 0-50 PPM
17	Hydrogen Sulfide 0-100 PPM
“ ~ 18	Chlorine 0-5 PPM
20	Nitric Oxide 0-100 PPM
22	Hydrogen Cyanide 0-50 PPM
“ ~ 23	Hydrogen Chloride 0-50 PPM
“ ~ 24	Chlorine Dioxide 0-3 PPM
25	Hydrogen Sulfide 0-500PPM



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~ 28	Chlorine 0-10 PPM
31	Combustible gas 0-100% LEL - Natural Gas & H <sub>2</sub>
32	Combustible gas 0-100% LEL - Petroleum Vapors
33	Combustible gas 0-100% LEL - Solvents
N } ^ 34	Acetylene IR (0-100% LEL) A07 - UL/ATEX ONLY
N } " 35	Carbon Dioxide IR 0-0.5%
} " 36	Carbon Dioxide IR 0-2%
N " 37	Carbon Dioxide IR 0-5%
N ** 38	IR combustible 0-100% LEL- Methane
** 39	IR combustible 0-100% LEL - Propane
41	Phosphine 0-2 PPM
42	Arsine 0-2 PPM
43	Silane 0-25 PPM
~ 45	Diborane 0-50 PPM
~ 46	Bromine 0-5 PPM
~ 47	Fluorine 0-10 PPM
~ 48	Ammonia 0-100 PPM
49	Hydrogen 0-1000 PPM
~ 50	Ethylene Oxide 0-10 PPM
51	Comb. Gas 0-100% LEL - ATEX - 4.4% CH <sub>4</sub> Natural Gas and H <sub>2</sub>
52	Comb. Gas 0-100% LEL - ATEX - 1.7% Propane Petroleum Vapors
53	Comb. Gas 0-100% LEL - ATEX - 1.7% 1.7% Propane Solvents
~ 54	Ammonia 0-1000 PPM
+ * } " x 55	Solvent Tolerant O <sub>2</sub>
57	Carbon Monoxide 0-1000 PPM
N 58	Comb Gas IR - Methane 0-100% LEL - ATEX - 4.4% CH <sub>4</sub>
N 59	Comb Gas IR - Non Methane 0-100% LEL - ATEX 1.7% Propane
~ 61	Chlorine 0-20 PPM
} " x 62	Solvent & CO <sub>2</sub> Tolerant Oxygen (0 -25%)
} " x 63	Low oxygen (0 -25%)
+ * } " x 64	Low solvent tolerant oxygen (0 -25%)
~ 70	Sulfur Dioxide 0-25 PPM
~ 71	Sulfur Dioxide 0-100 PPM
~ 72	Nitrogen Dioxide 0-10 PPM

#### Selection Guide for Ultima X Combustible (Catalytic)

##### CATEGORY 31: NATURAL GAS & H<sub>2</sub>

Span is set at 25% LEL with 0.6% Propane

Acetaldehyde	Ethylene	Methanol
Acetylene	Ethylene Dichloride	Methylene Chloride
Butadiene, 1, 3	Hydrogen	Monomethyl Amine
Carbon Monoxide	MAPP Gas	Trigonox B
Ethane	Methane	

##### CATEGORY 32: PETROLEUM VAPORS

Span is set at 40% LEL with 0.6% Propane

1, 1, 1-Trichloroethane	Cyclohexane	Pentane (n)
Acetic Acid	Dimethoxyethane	Pentane (iso)
Acetone	Dioxane, 1, 4	Pentene
Acrolein	Epichlorohydrin	Propane
Acrylonitrile	Ethanol	Propanol (n)
Allyl chloride	Ether, Diethyl	Propanol (iso)
Benzene	Ether, Dimethyl	Propylene
Butane (n)	Ethylene Oxide	Propylene Oxide
Butane (iso)	Freon 152°	Tetrahydrofuran
Butanol (iso)	Gasoline	Toluene
Butene - 1	Hexane	Trichloroethylene
Butene - 2	Isoprene	Triethylamine

Butyl Acetate (n)	Methyl Acetate	Vinyl Acetate
Butylene	Methyl Chloride	Vinyl Chloride
Butyraldehyde	Methyl Propene (2)	
Chlorobenzene	Methyl t-Butyl Ether	

#### CATEGORY 33: GENERAL SOLVENTS

Span is set at 55% LEL with 0.6% Propane

Amyl alcohol	Ethyl Acrylate	Methyl. Iso. Ket.
Butanol (n)	Ethyl Benzene	Methyl Methacrylate
Butyl Acrylate	Heptane	Naphtha, VM&P
Cellosolve	Hexene	Octane (iso)
Di isopropylamine	JP - 4	Propyl Acetate
Diethylamine	Methyl Cellosolve	Styrene
Ethyl Acetate	Methyl Ethyl Ketone	Xylene

If application includes gases in more than one category, specify highest number category.

#### SELECTION GUIDE FOR ULTIMA XIR COMBUSTIBLE

##### CATEGORY 38: Methane Calibration

	Controller Code	Cal Cylinder	Cylinder P/N	Cal Span Value
Methane	1	2.5% Methane	10028032	50% LEL

##### CATEGORY 39: Non-Methane Calibration

Value	Controller Code	Cal Cylinder	Cylinder P/N	Cal Span
Propane	2	0.6% Propane	10028034	29% LEL
Ethane	3	0.6% Propane	10028034	25% LEL
Butane	4	0.6% Propane	10028034	28% LEL
Pentane	5	0.6% Propane	10028034	33% LEL
Hexane	6	0.6% Propane	10028034	41% LEL
Cyclopentane	7	0.6% Propane	10028034	30% LEL
Ethylene	8	0.1% Propane	711054	28% LEL

For sensing multiple gases always calibrate for the least sensitive gas or vapor expected to be measured (highest response factor within category).

All other combustible gas span values available upon request.

#### Key:

- + UL approved, Class I, Div 1 & 2, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G for IR, Groups F, G for E-chem and catalytic; Class III
- > FM approved Class I, Div. 1 & 2, Groups A, B, C, D for oxygen, catalytic and IR
- \* CSA approved Class I, Div. 1, Groups A, B, C & D for E-chem and catalytic, Groups B, C & D for IR
- \*\* \$530 for Ultima XL only
- ATEX or IEC approved Ex d IIC T4, IP66
- ^ Available as custom product only
- x XP Stainless Steel only
- X<sup>3</sup>IR must have conduit
- ~ Available with intrinsically safe barrier and ATEX approval or UL Div.2 approval
- “ Not available as XL model
- } Not available as XT model
- N Not available on XPL
- = Not to be used in Helium or Argon backgrounds. Use #62 in its place.



# Ultima® X Series Gas Monitors

For continuous monitoring of oxygen, toxics, and combustible gases



*Now with SIL 2 Certified Products*

MSA's Ultima X Series Gas Monitors are microprocessor-based transmitters engineered with the customer in mind. Utilizing DuraSource Technology for extended sensor life, the monitors are available in either stainless steel or polycarbonate enclosure housings.

HART Field Communications Protocol provides increased sensor data, part of cost-effective asset management. HART also provides convenient setup, calibration and diagnostics. Calibrate, set up or perform diagnostics with HART from any point along the 4-20mA line. HART also allows for existing component install and wiring to be used, reducing installation costs.

*Because every life has a **purpose...***

# Ultima® X Series Gas Monitors

*Ultima X Series Gas Monitors are well-suited to indoor and outdoor applications in virtually any industry including offshore, refineries, chemical and petrochemical facilities, steel mills, water and wastewater plants, mining, and general industry.*

- Continuous hazardous gas monitoring using catalytic, electrochemical, and infrared gas detection methods.
- DuraSource Technology provides extended infrared sensor life
- HART Field Communications Protocol option for improved asset management
- Patented sensor disconnect-under-power allows sensor change-out without declassifying a hazardous area
- Interchangeable smart sensors: pre-calibrated, installation-ready sensor modules, field-replaceable without tools
- New sensor type quick recognition and reconfiguration of alarm and relay settings
- LCD conveniently alternates between sensor reading and gas type, plus scrolling messaging for ongoing diagnostic checks
- Single-board design for ultimate reliability and serviceability



## Ultima X Series installation and operation are both simple and flexible:

- Operates in diffusion mode, with factory-calibrated sensors ready to perform immediately after installation
- Offers HART upgrade of existing units via replacement PCBA
- Available for remote sensing applications, where installations require sensor to be separated from electronics
- Can operate completely stand-alone with large LCD display, optional quick-check LEDs, and 4 relay outputs (3 alarm and 1 fault), or connected with standard 4-20mA output to a control system (PLC, DCS, etc)
- Adjustable full-scale range
- Easy installation with 2-piece, field-wiring connectors

## Calibration

As with all gas monitors, Ultima X Series Gas Monitors must be calibrated periodically with the gas of interest to ensure proper operation. The calibration process offers:

- Automatic adjustments
- Date stamping
- Calibration instructions displayed on monitor
- Selectable lockout of output signal during calibration
- Ability to calibrate at the installation location or remotely without systems interruption
- Accessory calibrator, controller or pushbutton for calibration initiation

## Gases

Acetylene IR- 0-2.5%  
Ammonia- 0-50% LEL  
Ammonia- 0-100 PPM  
Ammonia- 0-1000 PPM  
Arsine- 0-2 PPM  
Bromine- 0-5 PPM  
Carbon dioxide IR- 0-0.5%  
Carbon dioxide IR- 0-2%  
Carbon dioxide IR- 0-5%  
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  
Ethylene oxide- 0-10 PPM  
Fluorine- 0-5 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% - compensated  
Oxygen- 0-25% - compensated  
Oxygen - CO2 tolerant- 0-25%  
Oxygen - solvent tolerant-  
0-25%  
Phosphine- 0-2 PPM  
Silane- 0-25 PPM  
Sulfur dioxide- 0-25 PPM  
Sulfur dioxide- 0-100 PPM



# Ultima X Series **Gas Monitors**

## Ultima XE Gas Monitor –

*Explosion-proof, stainless steel gas detector with display*

The Ultima XE Gas Monitor offers:

- Explosion-proof 316 stainless steel.
- Multiple-entry mounting enclosure.
- Type 4X, IP66.



## Ultima XA Gas Monitor –

*Water- and corrosion-resistant, all-purpose, polycarbonate gas detector with display*

The Ultima XA Gas Monitor offers:

- NEMA 4X rating.
- Lightweight (only 1.5 lbs).



## Ultima XIR Gas Monitor –

*Explosion-proof, stainless steel, infrared gas detector with display*

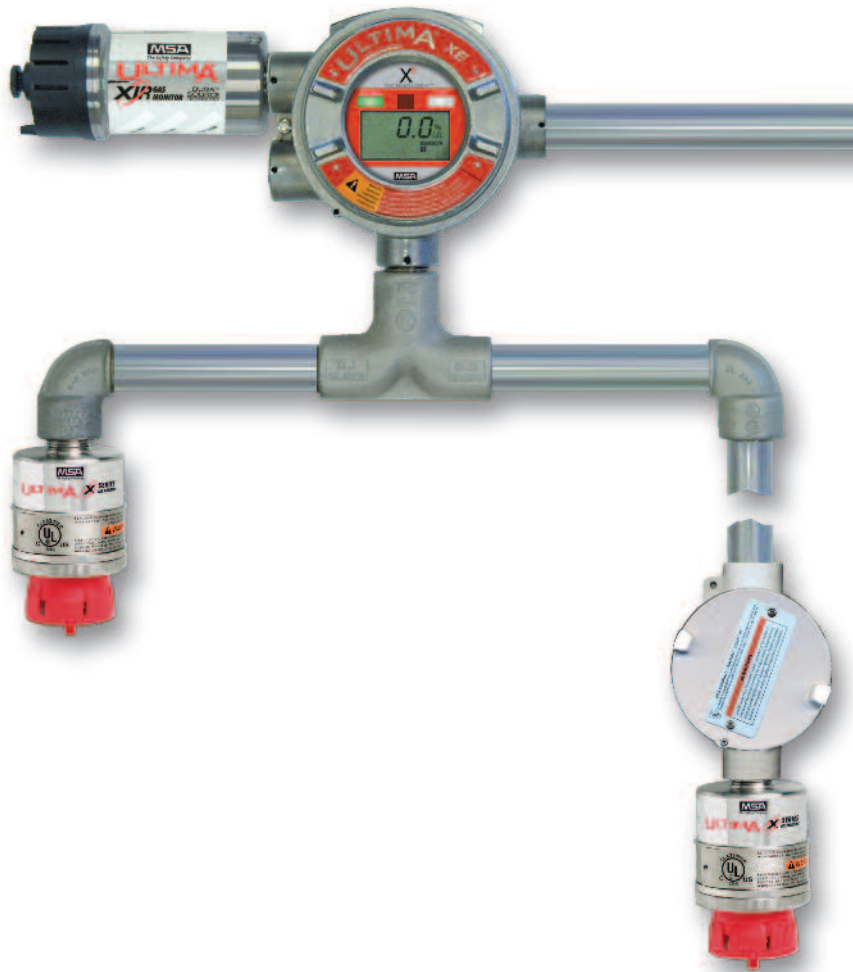
The Ultima XIR Gas Monitor offers:

- DuraSource Technology for improved IR sensor life.
- 316 stainless steel.
- Multiple-entry mounting enclosure.
- Fast response time.
- Operation based on dual-wavelength, heated-optics technology, providing definitive compensation for temperature, humidity, and aging effects.
- IR technology for excellent long-term stability, eliminating the need for frequent calibrations.
- Sintered disk-free design for optimum performance in harsh environments.
- No-gas calibration; only zero adjustment is required for full calibration.
- Type 4X, IP66 rating.



# Ultima X3<sup>®</sup> Technology

(X to the Power of 3)



## PLC/DCS [ProSoft-Tested]

Connect X3 unit to PLC/DCS control systems. X3 Technology is ProSoft-certified and has been tested and found to be compatible with Allen-Bradley PLC/Modbus connectivity by ProSoft Technology, Inc.

Up to 3000 ft.

Ultima X3 Technology for Ultima X Series Gas Monitors features:

### Multi-sensing

- Up to 31 monitors with up to 3 sensors inputted per monitor for 93-sensor total
- Combination of electrochemical-, catalytic-, and infrared-type sensors is available
- Scrolling display – monitor scrolls through type and reading for all attached sensors
- Operation of monitor as network slave device

### Signal boost

- Each sensor is remotely observable up to 3000 ft from the monitor
- Universal 85-256 VAC or 8-30 VDC power supply available at remote conduit

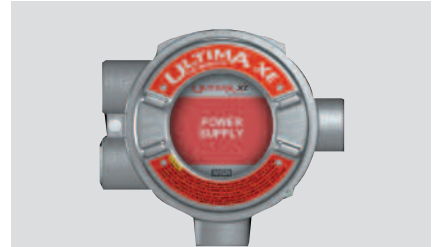
### ModBus RTU output

- Industry standard format
- RS-485 half-duplex communication interface
- PLC/DCS systems integration

## Power Supply

Ultima X Series Monitors external power supply can power sensors remotely; one remote power supply module can power:

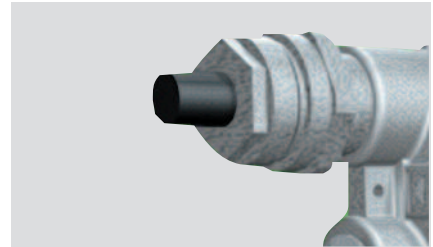
- up to 5 electrochemical or oxygen sensors.
- up to 3 combustible sensors.
- internal power supply option also available.



## Pushbutton

Pushbutton feature lets users view various functions without calibrator:

- alarm acknowledge
- zero calibration initialization
- SPAN calibration initialization
- iCAL calibration initialization
- calibration abort



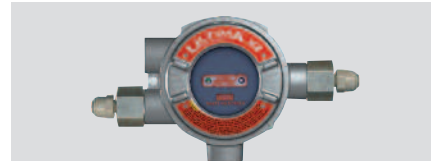
## Duct-Mount Kit

Duct-mount Kit allows users to monitor air within ductwork using the Ultima XE, XA, or XIR sensor. Quick-disconnect fitting enables calibration gas to reach sensors without duct-mounted sensor removal.



## Pump

Sampling pumps bring remote samples to sensors. Sampling modules are available in GP and XP versions of aspirated and pumped modules.



## Calibrator

Ultima Monitor Calibrator offers the industry's simplest calibration method, a three-button device allowing Ultima X Series Monitors calibration and address changes.



## Controller

Ultima Monitor Controller provides complete access to all features through its full-function keypad: alarm level set, span gas value changes, and last calibration date display.



## HART Port

Intrinsically-safe connection for a HART communicator.



# Specifications for Ultima XE, Ultima XA and Ultima XIR

GAS TYPES		XE, XA XIR	Combustibles, oxygen, and toxics 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 Span Drift	XE, XA XIR XE, XA	<5%/year, typical ±2%/year, typical <10%/year, typical
NOISE			<1% full scale
ACCURACY	Repeatability Linearity	XE, XA, XIR XE, XA XIR XE, XA XE, XA, XIR XE, XA	±1% full scale or 2ppm, typical ±2% full scale or 2ppm, (O <sub>2</sub> , CO) ±2% full scale (≤50% LEL) ±3% full scale (<50% LEL combustibles) ±5% full scale (>50% LEL combustibles) ±10% full scale or 2ppm, (non-CO toxics)
RESPONSE TIMES	T20 O <sub>2</sub> & toxics T50 O <sub>2</sub> & toxics T50 combustible T90 combustible T90 combustible	XE, XA XE, XA XE, XA XE, XA XIR	<12 seconds (typically 6 seconds) <30 seconds (typically 12 seconds) <8 seconds <30 seconds <2 seconds
HUMIDITY		XE, XA XIR	15%-95% RH, non-condensing 0%-95% RH, non-condensing
SENSOR LIFE	Oxygen & toxics Combustible Combustible Warranty	XE, XA XE, XA XIR	2 years typical 3 years typical 10 years typical 1 year XE, XA; 2 years XIR; 10 years XIR, XI (IR source only)
POWER INPUT		XE, XA XE, XA XIR	7-30VDC (oxygen and toxics) 2.4 W max 7-30VDC (combustibles) 5.0 W max 7-30VDC 7.0 W max
WIRING REQUIREMENTS	Combustible Oxygen & toxics Oxygen & toxics	XE, XA, XIR XE, XA XE, XA	3-wire 2-wire; no LEDs or relays 3-wire; LEDs and/or relays
SIGNAL OUTPUT		XE, XA XE, XA, XIR XE, XA, XIR	4-20mA 2-wire current sink 4-20mA 3-wire current source HART Output
RELAY CONTACT RATING			5amp @ 220 VAC; 5amp @ 30 VDC
HOUSING ENTRIES		XE, XIR XA	Four conduit entries, 3/4" NPT or 25mm One entry
PHYSICAL		XE XA XIR	316 stainless steel; 10.4 lbs (4.7kg) 6.3"W x 3.9"D x 10.3"L (160 x 99 x 261mm) Polycarbonate; 1.5 lbs (0.68kg) 5.1"W x 2.9"D x 9.4"L (130 x 76 x 239mm) 316 stainless steel; 10.8 lbs (4.9kg) 12.6"W x 3.9"D x 5.7"L (320 x 99 x 144mm)
APPROVAL RATINGS		Ultima X Series Monitors  XA Ultima X Series Monitors  Ultima X Series Monitors (not including X3 Technology or Hart)	<b>USA/Canada</b> cFMus, cULus, CSA Class I, Div. 1 and 2, Groups A, B, C, D Class II, Div. 1, Groups F & G, Class III Type 4X, IP66 ANSI/ISA 12.13.01 CSA C22.2 No.152, Class I, Div. 1, Groups A,B,C,D CSA C22.2 No. 152, Class I, Div. 1, Groups B,C,D (XIR) NEMA 4X rating <b>Europe</b> CE Low Voltage/EMC/ATEX, EN 60079-1 11 2G (Ex) d 11CT4 IP 66 <b>SIL Certification</b> SIL 2 @ HFT=0 (oxygen, catalytic combustible, and IR) SIL 1 @ HFT = 0: SIL 2 @ HFT = 1 (toxic)

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.



ID 07-2051-MC / Jan 2013

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1000 Cranberry Woods Drive  
Cranberry Township, PA 16066 USA  
Phone 724-776-8600  
[www.MSAafety.com](http://www.MSAafety.com)

**U.S. Customer Service Center**  
Phone 1-800-MSA-INST  
Fax 1-800-967-0398

**MSA Canada**  
Phone 1-800-672-2222  
Fax 1-800-967-0398

**MSA Mexico**  
Phone 01 800 672 7222  
Fax 52 - 44 2227 3943

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