



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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	10	11	12	13

- 1 Model**
A = General Purpose Plastic, with display
T = 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 & H₂
- 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% CH₄
Natural Gas and H₂
- 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 O₂
- 57 Carbon Monoxide 0-1000 PPM
- N 58 Comb Gas IR – Methane 0-100% LEL –
ATEX - 4.4% CH₄
- N 59 Comb Gas IR - Non Methane 0-100% LEL – ATEX
1.7% Propane
- “~ 61 Chlorine 0-20 PPM
- }” x 62 Solvent & CO₂ 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

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

CATEGORY 33: GENERAL SOLVENTS

Span is set at 55% LEL with 0.6% Propane

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

	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.

Selection Guide for Ultima X Combustible (Catalytic)

CATEGORY 31: NATURAL GAS & H₂

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	Epichlorhydrin	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

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
- X³IR 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.