

Ultima® X Series Gas Monitors – ATO Order Form

A-ULTIMA X-XP

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①

Model

E = Explosion proof, with display
 I = XI (IR sensor with no display)
 L = Explosion proof, no display
 Catalytic & Electrochemical
 Infrared
 J = X series junction box (No electronics)

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Gas Code –see list for gas type

NOTE: The following codes will provide enclosure and electronics only. No sensor components or sensor body housing.
 01 = “Standard” toxics and oxygen
 02 = Catalytic
 03 = IR Combustible
 04 = “Reactive” toxics (ex. Cl₂, HCl, ClO₂, NH₃, HF, EtO)
 05 = IR CO₂
 Note: If ② = IR, ④ ≠ 0.
 For XIR sensors use A-ULTX-SENS

③

Configuration

- A = ATEX w/metric threads
- B = ATEX w/NPT threads
- * C = CSA approval w/NPT threads
- > F = FM approval (cFM_{us}) w/NPT threads
- + U = UL approval w/NPT threads
- I = IEC approval w/metric threads

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Sensor Output

0 = No PCBA, (Use when ordering sensor body & sensor only)
 1 = 2-Wire mA output
 2 = 2-Wire (mA + HART) output
 3 = 3-Wire mA output
 4 = 3-Wire (mA + HART) output
 Note: If ② = IR, ④ ≠ 0.
 For XIR sensors use A-ULT-SENS

⑤

Sensor Mounting Style

S = Sensor mounted on control unit
 D = Sensor mounted on remote housing
 N = No conduit (choose for sensor/sensor body only)

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Relays and LEDs

0 = No relays and no LEDs (Required if 2-wire)
 Not permitted if ④ = 4
 1 = LEDs, no relays (Required if Model = L) 3-wire
 2 = Relays and LEDs 3-wire

⑦

Display Language/Features

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

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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)
 NOTE: Power supplies not available for ATEX or IEC – matrix 8

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Gas Sample Selection

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

⑩

Integrated Accessories

0 = None
 1 = XP HART port
 (requires cable P/N 10081441 FM)
 2 = Reset/Cal switch – approved for Div. 1, Gr.
 B-D only
 3 = Both XP HART port and Reset/Cal switch (UL)
 Note: option 3 requires use of a HART module

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Installation Hardware

0 = None
 1 = Brackets
 2 = Duct Mount Kit
 3 = Brackets + Duct Mount Kit

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Manuals – alternate quantities can be ordered separately

0 = Standard
 1 = Hardcopy + CD

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Custom Features

0 = None
 C = Custom operation necessary
 T = Custom Tagging, SS
 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



The Safety Company

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“ ~ 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
“ ~ 26	Hydrogen Fluoride 0-10 PPM
“ ~ 28	Chlorine 0-10 PPM
31	Combustible gas 0-100% LEL - Natural Gas & H ₂
32	Combustible gas 0-100% LEL – Petroleum Vapors
33	Combustible gas 0-100% LEL – Solvents
N } ” ^ 34	Acetylene IR 0-2.5%
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 ₄
	Natural Gas and H ₂
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 ₂
57	Carbon Monoxide 0-1000 PPM
N 58	Comb Gas IR – Methane 0-100% LEL –
	ATEX - 4.4% CH ₄
N 59	Comb Gas IR - Non Methane 0-100% LEL – ATEX
	1.7% Propane
“ ~ 61	Chlorine 0-20 PPM
} ” x 62	Solvent & CO ₂ 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 & 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	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

	Controller Code	Cal Cylinder	Cylinder P/N	Cal Span Value
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
- 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