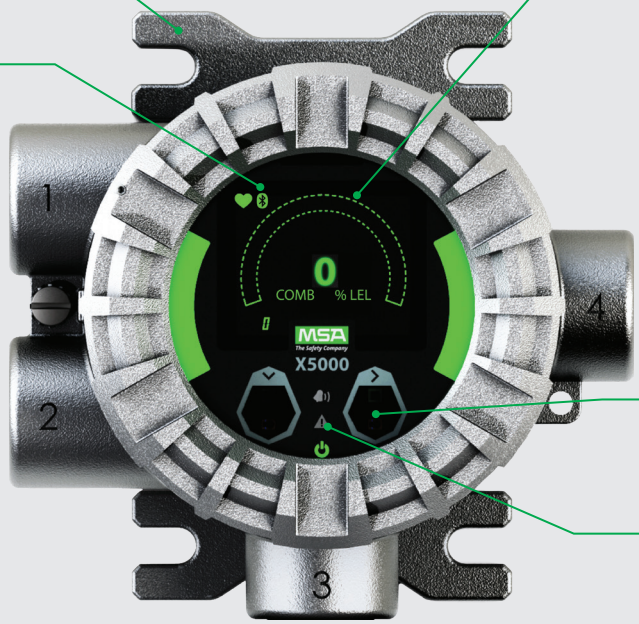
ULTIMA® X5000 Gas Monitor

The future looks bright.

Simple retrofits have identical footprint and wiring to ULTIMA X Gas Monitor series.

Bluetooth® wireless technology allows mobile device to act as HMI screen and controller.



Intuitive display features new design equipped with organic LED (OLED) display, with full word text in 9 languages. Bright green, yellow, and red status LEDs for extreme visibility.

X/S Connect App

Reduce setup time by at least 50% with the X/S Connect App.

GET IT ON Google Play | Download on the App Store

Industry-first, touch-button interface provides intuitive, tool-free user experience.

Instrument status indicators illuminate power, fault, and alarm conditions.

Advanced Sensor Technology

POWERED BY XCell® SENSORS

WITH TruCal® TECHNOLOGY

SafeSwap®

- Patented XCell H_2S and CO Sensors with TruCal technology extend calibration cycles for as long as 2 years, actively monitor sensor integrity, and compensate for environmental factors and electrochemical sensor drift.
  - **Diffusion Supervision** sends acoustic signal every 6 hours to check that sensor inlet isn't obstructed so gas can reach the sensor.
  - Worry-free operation—automatically self-checks four times per day.
- 3-year warranty and 5-year expected life for XCell Sensors.
- **Dual sensor capability** doubles sensing power with half the footprint of a single gas sensor transmitter.
- **SafeSwap** enables safe and quick XCell Sensor replacement without powering off gas detector.

Applications

- Chemical
- Oil and gas
- Petrochemical
- Utilities
- Wastewater
- General industry

WE KNOW WHAT'S AT STAKE.

ULTIMA X5000 Gas Monitor: Sensor Specifications

Electrochemical Sensors													
Gas	Default Range	Selectable Full Scale Range	Resolution	Response Time*		Repeatability	Zero Drift	Operating Temperature		Sensor Type	Sensor Life	Warranty	Classification
				T50	*T90*			*Min.*	*Max.*				
Ammonia - 100	0 - 100 ppm	25 - 100 ppm	0.1 ppm	< 20 Sec	< 60 Sec	< ±1%	< 1% FS / Month	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 2
Ammonia - 1000	0 - 1000 ppm	190 - 1000 ppm	10 ppm	< 20 Sec	< 300 Sec	< ±15%	< 1% FS / Month	-30°C (-22°F)	50°C (122°F)	Echem	2 Years	1 Year	Div/Zone 2
Carbon Monoxide - 100	0 - 100 ppm	10 - 1000 ppm	1 ppm	< 3 Sec	< 9 Sec	< ±1%	< 1% FS / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Carbon Monoxide - 1000	0 - 1000 ppm	10 - 1000 ppm	1 ppm	< 3 Sec	< 9 Sec	< ±1%	< 1% FS / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Carbon Monoxide - 500	0 - 500 ppm	10 - 1000 ppm	1 ppm	< 3 Sec	< 9 Sec	< ±1%	< 1% FS / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Carbon Monoxide H_2 Resistant	0 - 100 ppm	10 - 1000 ppm	1 ppm	< 3 Sec	< 9 Sec	< ±1%	< 1% FS / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Chlorine - 5	0 - 5 ppm	1 - 20 ppm	0.1 ppm	< 5 Sec	< 12 Sec	< ±1%	< 1% FS / Month	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 2
Chlorine - 10	0 - 10 ppm	1 - 20 ppm	0.1 ppm	< 5 Sec	< 12 Sec	< ±1%	< 1% FS / Month	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 2
Chlorine - 20	0 - 20 ppm	1 - 20 ppm	0.1 ppm	< 5 Sec	< 12 Sec	< ±1%	< 1% FS / Month	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 2
Chlorine Dioxide	0 - 3 ppm	0.5-3.0 ppm	0.01 ppm	< 12 Sec	< 30 Sec	< +15%	< 1% FS / Month	-40°C (-40°F)	50°C (122°F)	XCell	5 Years	3 Years	Div/Zone 2
Ethylene Oxide	0 - 10 ppm	1 - 10 ppm	0.1 ppm	< 50 Sec	< 140 Sec	< ±15%	< 2% FS/Month	-20°C (-4°F)	40°C (104°F)	Echem	2 Years	1 Year	Div/Zone 2
Hydrogen	0 - 1000 ppm	250 - 1000 ppm	10 ppm	< 40 Sec	< 185 Sec	< ±10%	< 1% FS / Month	-30°C (-22°F)	50°C (122°F)	Echem	2 Years	1 Year	Div/Zone 1
Hydrogen Chloride	0 - 50 ppm	25 - 50 ppm	1 ppm	< 30 Sec	< 120 Sec	< ±35%	< 1% FS / Month	-30°C (-22°F)	40°C (104°F)	Echem	2 Years	1 Year	Div/Zone 2
Hydrogen Cyanide	0 - 50 ppm	25 - 50 ppm	1 ppm	< 8 Sec	< 30 Sec	< ±15%	< 1% FS / Month	-20°C (-4°F)	40°C (104°F)	Echem	2 Years	1 Year	Div/Zone 1
Hydrogen Fluoride	0 - 10 ppm	5 - 10 ppm	0.1 ppm	< 60 Sec	< 90 Sec	< ±15%	< 2% FS / Month	0°C (32°F)	50°C (122°F)	Echem	2 Years	1 Year	Div/Zone 2
Hydrogen Sulfide - 10	0 - 10 ppm	10 - 100 ppm	0.1 ppm	< 7 Sec	< 23 Sec	< ±1%	< 1% FS / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Hydrogen Sulfide - 50	0 - 50 ppm	10 - 100 ppm	0.1 ppm	< 7 Sec	< 23 Sec	< ±1%	< 1% FS / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Hydrogen Sulfide - 100	0 - 100 ppm	10 - 100 ppm	0.1 ppm	< 7 Sec	< 23 Sec	< ±1%	< 1% FS / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Hydrogen Sulfide - 500	0 - 500 ppm	20 - 500 ppm	1 ppm	< 20 Sec	< 60 Sec	< ±10%	< 1% FS / Month	-40°C (-40°F)	50°C (122°F)	Echem	2 Years	1 Year	Div/Zone 1
Nitrogen Dioxide	0 - 10 ppm	1.5 - 10 ppm	0.1 ppm	< 30 Sec	< 60 Sec	< ±10%	< 1% FS / Month	-40°C (-40°F)	50°C (122°F)	Echem	2 Years	1 Year	Div/Zone 2
Nitrogen Oxide	0 - 100 ppm	2.5 - 100 ppm	0.5 ppm	< 5 Sec	< 20 Sec	< ±15%	< 1% FS / Month	-30°C (-22°F)	50°C (122°F)	Echem	2 Years	1 Year	Div/Zone 1
Oxygen	0 - 25%	5 - 25%	0.10%	< 6 Sec	< 11 Sec	< ±1% Vol	< 0.2 % Vol / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Oxygen (FM)	0 - 25%	5 - 25%	0.10%	< 6 Sec	< 11 Sec	< ±1% Vol	< 0.2 % Vol / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Oxygen, Low	0 - 25%	2 - 25%	0.10%	< 10 Sec	< 30 Sec	< ±10%	< 1% FS / Month	-30°C (-22°F)	50°C (122°F)	Echem	2 Years	1 Year	Div/Zone 1
Sulfur Dioxide - 100	0 - 100 ppm	25 - 100 ppm	1 ppm	< 10 Sec	< 30 Sec	< ±15%	< 1% FS / Month	-30°C (-22°F)	50°C (122°F)	Echem	2 Years	1 Year	Div/Zone 2
Sulfur Dioxide - 25	0 - 25 ppm	5 - 25 ppm	0.1 ppm	< 3 Sec	< 6 Sec	< ±1%	< 1% FS / Month	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 2

**Typical response at standard temperature and pressure test conditions*

ULTIMA X5000 Gas Monitor: Sensor Specifications

XCell Catalytic Bead Sensors													
Gas	Default Range	Selectable Full Scale Range	Resolution	Response Time*		Repeatability	Zero Drift	Operating Temperature		Sensor Type	Sensor Life	Warranty	Classification
				T50	*T90*			*Min.*	*Max.*				
Methane (5.0%)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Propane (2.1%)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Heptane (1.05%)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Nonane (0.8%)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Hydrogen (4.0%)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Methane (4.4% EN)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Propane (1.7% EN)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Heptane (0.85% EN)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1
Nonane (0.7% EN)	0 - 100% LEL	20 - 100% LEL	1%	< 10 Sec	< 22 Sec	< ±1% LEL	< 5% LEL / Year	-40°C (-40°F)	60°C (140°F)	XCell	5 Years	3 Years	Div/Zone 1

ULTIMA XIR Plus Infrared Sensors												
Gas	Default Range	Selectable Full Scale Range	Resolution	Response Time*		Repeatability	Zero Drift	Operating Temperature		Sensor Life	Warranty	Classification
				T50	*T90*			*Min.*	*Max.*			
XIR+ 0-100% LEL Ethanol	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Ethylene Oxide	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Gasoline Hexane	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Hexane	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Isopropanol	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Methane (5%)	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Methyl Methacrylate	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Propane (2.1%)	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Ethanol EN	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Ethylene Oxide EN	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Gasoline Hexane EN	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Methane (4.4%) EN	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ 0-100% LEL Propane (1.7%) EN	0 - 100% LEL	20 - 100% LEL	1%	—	< 2 Sec	< ±1% LEL	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ Carbon Dioxide (2%)	0 - 2% Vol	0.4 - 2%	0.05%	< 3 Sec	< 6 Sec	< ±1%	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1
XIR+ Carbon Dioxide (5%)	0 - 5% Vol	1 - 5%	0.05%	< 3 Sec	< 6 Sec	< ±1%	N/A	-40°C (-40°F)	60°C (140°F)	10+ Years	10 Years	Div/Zone 1

**Typical response at standard temperature and pressure test conditions*

ULTIMA® X5000 Gas Monitor

Specifications

Product Specifications		
COMBUSTIBLE GAS SENSOR TYPE	Catalytic Bead (XCell combustible) Infrared (XIR Plus)	
TOXIC GAS & OXYGEN SENSOR TYPE	**XIR PLUS** **XCell Toxic** **XCell O_2** **Electrochem.**	Carbon Dioxide (CO_2) Ammonia (NH_3), Carbon Monoxide (CO), Carbon Monoxide (CO) H_2-resistant, Hydrogen Sulfide (H_2S), Chlorine (Cl_2), Chlorine Dioxide (ClO_2) Sulfur Dioxide (SO_2) Oxygen (O_2) Ammonia (NH_3), Ethylene Oxide (ETO) Hydrogen (H_2), Hydrogen Chloride (HCl), Hydrogen Cyanide (HCN), Hydrogen Fluoride (HF) Nitric Oxide (NO), Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2)
SENSOR MEASURING RANGES	**Combustible** **CO_2** **CO** **CO, H_2-resistant** **Cl_2** **ClO_2** **ETO** **H_2** **HCl** **HCN** **HF** **H_2S** **NH_3** **NO** **NO_2** **O_2** **SO_2**	0-100% LEL 0-2%, 0-5% Vol 0-100, 0-500, 0-1000 ppm 0-100 ppm 0-5, 0-10, 0-20 ppm 0-3 ppm 0-10 ppm 0-1000 ppm 0-50 ppm 0-50 ppm 0-10 ppm 0-10, 0-50, 0-100, 0-500 ppm 0-100, 0-1000 ppm 0-100 ppm 0-10 ppm 0-25% 0-25, 0-100 ppm
APPROVALS CLASSIFICATION	*Markings vary by component.* *See manual for specific component markings.*	
DIVISIONS (US/CAN)	Class I, II, III; Div 1 & 2, T4/T5/T6	
ZONES (GLOBAL)	Ex db nA IIC T5 Gb (Class I, Zone 1/Zone2) Ex tb IIIC T85°C Db (Class II, Zone 21)	
ENCLOSURE RATING	Type 4X, IP66	
WARRANTY	**X5000 transmitter** **XIR PLUS** **XCell Sensors** **Electrochemical Sensors**	2 years 10 years source, 5 years electronics 3 years Varies by gas
APPROVALS	CSA, FM*, ATEX, IECEx, INMETRO, DNV-GL Marine, CE Marking. SIL 2 suitable. Complies with C22.2 No. 152, FM 6320	

Environmental Specifications		
OPERATING TEMPERATURE RANGE	**XCell** **Electrochem.** **XIR PLUS**	-40°C to +60°C *See page 2* -40°C to +60°C
RELATIVE HUMIDITY (NON-CONDENSING)	**XCell toxics & O_2** **XCell combustible** **XIR PLUS**	10-95% 0-95% 15-95%

Mechanical Specifications		
INPUT POWER	11 to 30 VDC, 3 wire	
SIGNAL OUTPUT	Dual 4-20 mA current source, HART	
BLUETOOTH (OPTIONAL)	Bluetooth Low Energy (BLE) v4.3 or higher	
RELAY RATINGS	5 A @ 30 VDC; 5 A @ 220 VAC (3X) SPDT - fault, warn, alarm	
RELAY MODES	Common, discrete, horn	
NORMAL MAX POWER		***Without Relays*** / ***With Relays***
	XIR PLUS	5.7 W / 6.7 W
	XCell combustible	3.9 W / 4.9 W
	XCell Toxic & O_2	1.8 W / 2.8 W
	XIR PLUS & XCell combustible	9.9 W / 10.9 W
	XIR PLUS & XCell toxic or O_2	6.0 W / 7.0 W
	Dual XIR PLUS	10.6 W / 11.6 W
	Dual XCell toxic & O_2	2.6 W / 3.6 W
	Dual XCell combustible	9.6 W / 10.6 W
	Dual XCell comb. & XCell toxic or O_2	4.3 W / 5.3 W
EMC DIRECTIVE	Complies with EN 50270, EN 61000-6-4, EN 61000-6-3	
DISPLAY	Organic LED (multi-lingual) with contrast ratio of 2000:1 and view angle of 160°	
HART	HART 7, HART device description language available	
FAULTS MONITORED	Low supply voltage, RAM checksum error, flash checksum error, EEPROM error, internal circuit error, relay, invalid sensor configuration, sensor faults, general system	
CABLE REQUIREMENTS	3-wire shielded cable for single sensor and 4-wire shielded cable for dual sensor configurations. Accommodates up to 12 AWG or 4 mm2 *Refer to manual for mounting distances.*	

Dimensions	
HOUSING (W x H)	5.88" x 5.71" (150 x 145 mm)
W/XCELL SENSOR	5.88" x 10.15" (150 x 258 mm)
W/XCELL & XIR SENSORS	13.42" x 10.15" (341 x 258 mm)
LID (DEPTH)	
W/RELAY BOARD	4.86" (123 mm)
W/O RELAY BOARD	3.86" (98 mm)
WEIGHT	8.8 lb. (4 kg), 316 SS

See manual for FM approved sensors.

MSA operates in over 40 countries worldwide. To find an MSA office near you, please visit ***MSAsafety.com/offices***.

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