



# ULTIMA<sup>®</sup> X5000 Gas Monitor



**SAFEGUARDING PEOPLE,  
PLACES & THE PLANET.**

*WE KNOW YOU'RE TIRED OF...*



*"NEEDING TO DISCONNECT POWER  
BEFORE CHANGING A SENSOR"*

*"REMEMBERING HOW TO  
CALIBRATE THIS THING"*

*"HAVING TO PULL SO MUCH WIRE AT EVERY  
GAS DETECTOR INSTALLATION..."*

*"WONDERING IF THE GAS DETECTOR  
IS WORKING"*



*YOU HAVEN'T BEEN ABLE  
TO DO ANYTHING ABOUT IT...  
UNTIL NOW.*

*"LOSING MY MAGNET...  
I HAVE BIGGER THINGS  
TO WORRY ABOUT"*



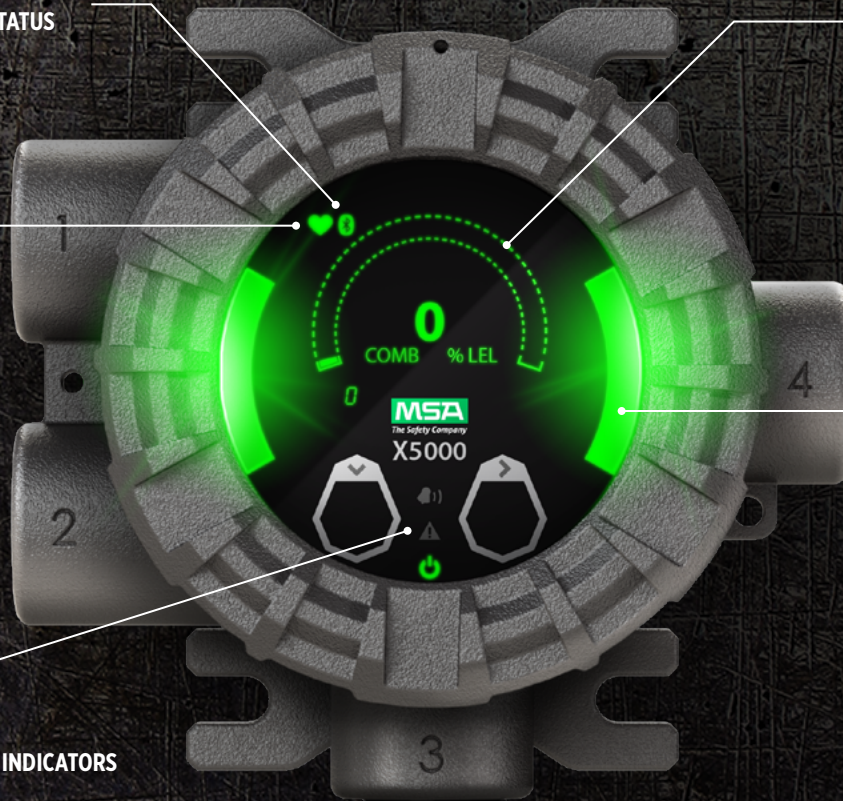
# BUILT FOR TOMORROW'S DEMANDS, TODAY.

 **BLUETOOTH® CONNECTION STATUS**

**GAS READING GAUGE AND PROGRESS BAR**

 **ACTIVE OPERATION INDICATOR**

**BRIGHT STATUS LED**



**INSTRUMENT STATUS INDICATORS**



Power



Fault



Alarm

## STAY CONNECTED. WORK SMARTER.

- Bluetooth wireless technology
- Check status and get alerts up to 75 ft. (23 m) away
- Modify settings/setpoints/alarms
- Initiate calibration and view progress
- Significantly reduce setup time



Remote monitoring & notifications with FGFD FieldServer IoT Gateways



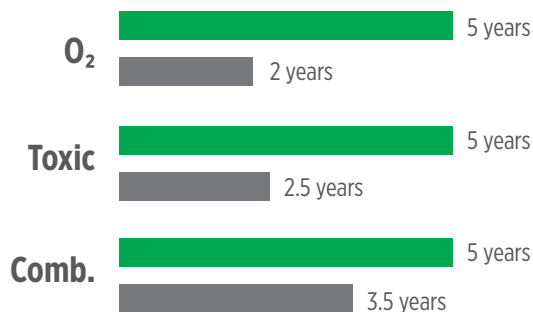
# ADVANCING SENSOR TECHNOLOGY

Up to **2 YEARS** between calibrations



■ MSA    ■ Industry Average

## Longer Sensor Life



## Longer Warranties



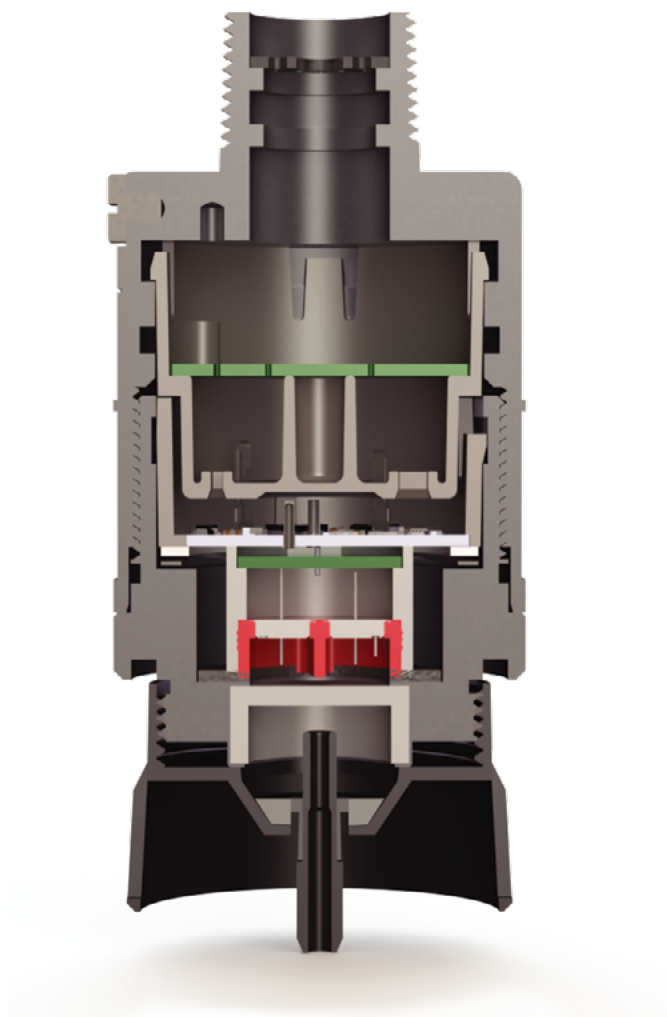
## Higher Temperature



## 10x Better Resolution for H<sub>2</sub>S & SO<sub>2</sub>



*\* Data may vary for different gases and configurations*



# RE-CALIBRATE YOUR EXPECTATIONS



## Adaptive Environmental Compensation (AEC)

### Longer Sensor Life

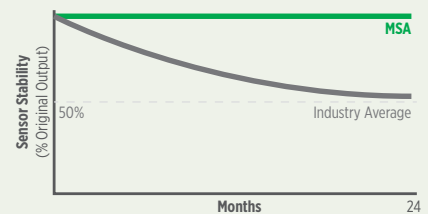


Automatically self-checks 4x/day

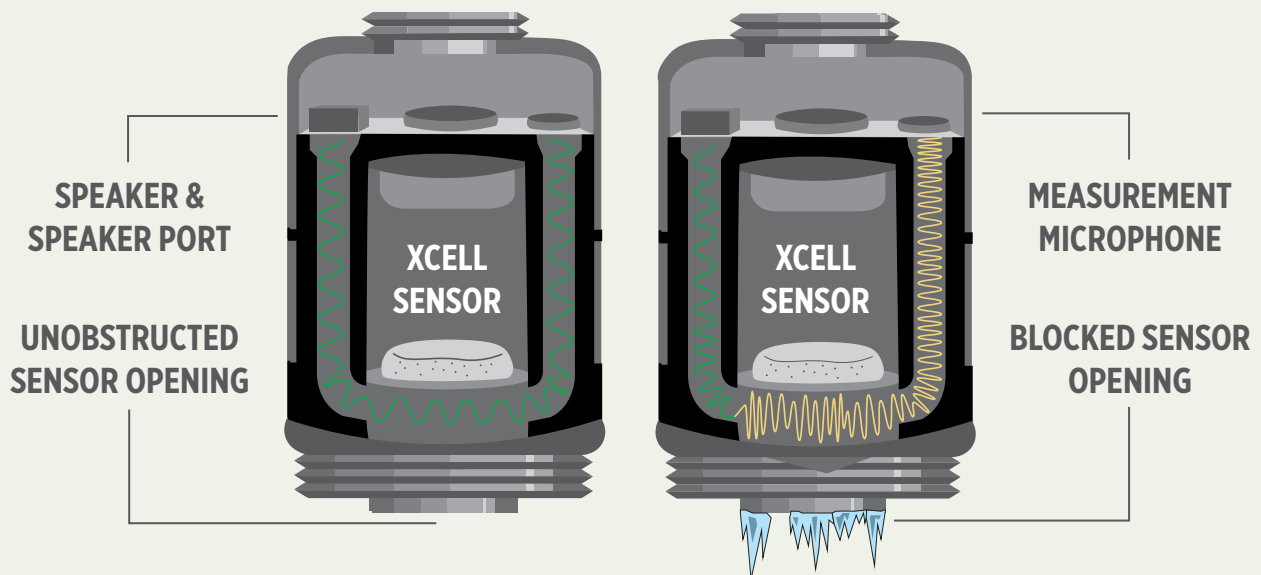
### Longer Calibration Cycles



### Better Stability (Lower Drift)



## Diffusion Supervision (DS)



Diffusion Supervision warns if the sensor inlet becomes blocked and unable to detect gas. It employs a proprietary acoustic mechanical design and algorithms to measure sound across the sensor's inlet. If the inlet is blocked with a material, like ice, the difference in the sound is detected and the unit is put into fault. When the obstruction is removed, Diffusion Supervision detects the clearance and returns to normal operation. H<sub>2</sub>S and CO sensors configured with Diffusion Supervision technology allow extended calibration cycles of two years reducing maintenance costs and allowing resources to be utilized elsewhere.

# DO MORE WITH LESS



# IT MAKES SENSE... NO EXCEPTIONS



**EXPECTED LIFE**



**WARRANTY**



**PATENTS**

## We're going to help you save\*

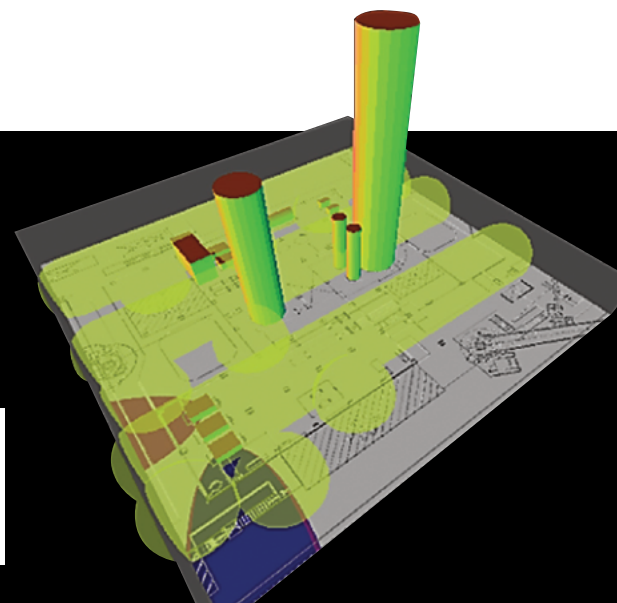
Installation	<b>30%</b>	<b>~\$7,000</b>
Annual maintenance	<b>50%</b>	<b>~\$1,500</b>
Over the life of the product	<b>75%</b>	<b>~\$15k</b>

Request a Cost of Ownership comparison.

## Questions about sensor placement?

MSA's fire and gas mapping service integrates more than 300 years of combined gas detection experience with 3D technology to help you maximize the effectiveness of every sensor.

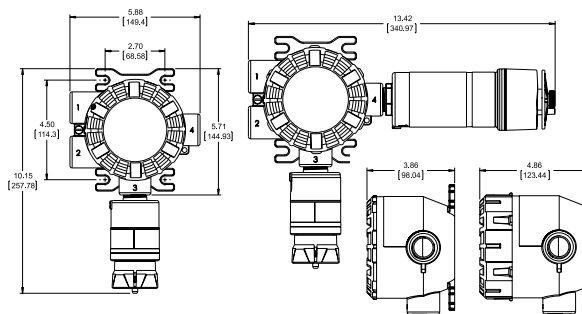
Check out the link or scan for more information:  
[MSAsafety.com/gas-mapping](https://MSAsafety.com/gas-mapping)



\* Based on 10 sensors and 2 sensors/transmitter

Product Specifications	
<b>COMBUSTIBLE GAS SENSOR TYPE</b>	Catalytic Bead (XCell combustible) Infrared (XIR Plus)
<b>TOXIC GAS &amp; OXYGEN SENSOR TYPE</b>	<p><b>XIR PLUS</b> Carbon Dioxide (CO<sub>2</sub>)</p> <p><b>XCell Toxic</b> Ammonia (NH<sub>3</sub>), Carbon Monoxide (CO), Carbon Monoxide (CO) H<sub>2</sub>-resistant, Hydrogen Sulfide (H<sub>2</sub>S), Chlorine (Cl<sub>2</sub>), Chlorine Dioxide (ClO<sub>2</sub>) Sulfur Dioxide (SO<sub>2</sub>)</p> <p><b>XCell O<sub>2</sub></b> Oxygen (O<sub>2</sub>)</p> <p><b>Electrochem.</b> Ammonia (NH<sub>3</sub>), Ethylene Oxide (ETO), Hydrogen (H<sub>2</sub>), Hydrogen Chloride (HCl), Hydrogen Cyanide (HCN), Hydrogen Fluoride (HF), Nitric Oxide (NO), Nitrogen Dioxide (NO<sub>2</sub>), Sulfur Dioxide (SO<sub>2</sub>)</p>
<b>SENSOR MEASURING RANGES</b>	<p><b>Combustible</b> 0-100% LEL</p> <p><b>CO<sub>2</sub></b> 0-2%, 0-5% Vol</p> <p><b>CO</b> 0-100, 0-500, 0-1000 ppm</p> <p><b>CO, H<sub>2</sub>-resistant</b> 0-100 ppm</p> <p><b>Cl<sub>2</sub></b> 0-5, 0-10, 0-20 ppm</p> <p><b>ClO<sub>2</sub></b> 0-3 ppm</p> <p><b>ETO</b> 0-10 ppm</p> <p><b>H<sub>2</sub></b> 0-1000 ppm</p> <p><b>HCl</b> 0-50 ppm</p> <p><b>HCN</b> 0-50 ppm</p> <p><b>HF</b> 0-10 ppm</p> <p><b>H<sub>2</sub>S</b> 0-10, 0-50, 0-100, 0-500 ppm</p> <p><b>NH<sub>3</sub></b> 0-100, 0-1000 ppm</p> <p><b>NO</b> 0-100 ppm</p> <p><b>NO<sub>2</sub></b> 0-10 ppm</p> <p><b>O<sub>2</sub></b> 0-25%</p> <p><b>SO<sub>2</sub></b> 0-25, 0-100 ppm</p>
<b>APPROVALS CLASSIFICATION</b>	<i>Markings vary by component. See manual for specific component markings.</i>
<b>DIVISIONS (US/CAN)</b>	Class I, II, III; Div 1 & 2, T4/T5/T6
<b>ZONES (GLOBAL)</b>	Ex db nA IIC T5 Gb (Class I, Zone 1/Zone2) Ex tb IIIC T85°C Db (Class II, Zone 2I)
<b>ENCLOSURE RATING</b>	Type 4X, IP66
<b>WARRANTY</b>	<p><b>X5000 transmitter</b> 2 years</p> <p><b>XIR PLUS</b> 10 years source, 5 years electronics</p> <p><b>XCell Sensors</b> 3 years</p> <p><b>Electrochemical Sensors</b> Varies by gas</p>
<b>APPROVALS</b>	CSA, FM*, ATEX, UKCA, IECEx, INMETRO, DNV-GL Marine, CE Marking, SIL 2 suitable. Complies with C22.2 No. 152, FM 6320
Environmental Specifications	
<b>OPERATING TEMPERATURE RANGE</b>	<p><b>XCell</b> -40°C to +60°C</p> <p><b>XIR PLUS</b> -40°C to +60°C</p> <p><b>Electrochem</b> See data sheet</p>
<b>RELATIVE HUMIDITY (NON-CONDENSING)</b>	<p><b>XCell sensors except O<sub>2</sub></b> 5-95%</p> <p><b>XCell O<sub>2</sub></b> 10-95%</p> <p><b>XIR PLUS</b> 5-95%</p> <p><b>Electrochem</b> 15-90%</p>

Electrical Specifications																															
<b>INPUT POWER</b>	11 to 30 VDC, 3 wire																														
<b>SIGNAL OUTPUT</b>	Dual 4-20 mA current source, HART																														
<b>BLUETOOTH (OPTIONAL)</b>	Bluetooth Low Energy (BLE) v4.3 or higher																														
<b>RELAY RATINGS</b>	5 A @ 30 VDC; 5 A @ 250 VAC (3X) SPDT - fault, warn, alarm																														
<b>RELAY MODES</b>	Common, discrete, horn																														
<b>NORMAL MAX POWER</b>	<table border="1"> <thead> <tr> <th></th> <th>Without Relays</th> <th>With Relays</th> </tr> </thead> <tbody> <tr> <td><b>XIR PLUS</b></td> <td>5.7 W</td> <td>6.7 W</td> </tr> <tr> <td><b>XCell combustible</b></td> <td>3.9 W</td> <td>4.9 W</td> </tr> <tr> <td><b>XCell Toxic &amp; O<sub>2</sub></b></td> <td>1.8 W</td> <td>2.8 W</td> </tr> <tr> <td><b>XIR PLUS &amp; XCell combustible</b></td> <td>9.9 W</td> <td>10.9 W</td> </tr> <tr> <td><b>XIR PLUS &amp; XCell toxic or O<sub>2</sub></b></td> <td>6.0 W</td> <td>7.0 W</td> </tr> <tr> <td><b>Dual XIR PLUS</b></td> <td>10.6 W</td> <td>11.6 W</td> </tr> <tr> <td><b>Dual XCell toxic &amp; O<sub>2</sub></b></td> <td>2.6 W</td> <td>3.6 W</td> </tr> <tr> <td><b>Dual XCell combustible</b></td> <td>9.6 W</td> <td>10.6 W</td> </tr> <tr> <td><b>Dual XCell comb. &amp; XCell toxic or O<sub>2</sub></b></td> <td>4.3 W</td> <td>5.3 W</td> </tr> </tbody> </table>		Without Relays	With Relays	<b>XIR PLUS</b>	5.7 W	6.7 W	<b>XCell combustible</b>	3.9 W	4.9 W	<b>XCell Toxic &amp; O<sub>2</sub></b>	1.8 W	2.8 W	<b>XIR PLUS &amp; XCell combustible</b>	9.9 W	10.9 W	<b>XIR PLUS &amp; XCell toxic or O<sub>2</sub></b>	6.0 W	7.0 W	<b>Dual XIR PLUS</b>	10.6 W	11.6 W	<b>Dual XCell toxic &amp; O<sub>2</sub></b>	2.6 W	3.6 W	<b>Dual XCell combustible</b>	9.6 W	10.6 W	<b>Dual XCell comb. &amp; XCell toxic or O<sub>2</sub></b>	4.3 W	5.3 W
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<b>EMC DIRECTIVE</b>	Complies with EN 50270, EN 61000-6-4																														
<b>DISPLAY</b>	Organic LED (multi-lingual) with contrast ratio of 2000:1 and view angle of 160°																														
<b>RS-485 OUTPUT</b>	Modbus RTU, suitable for linking up to 128 units or up to 247 with repeaters																														
<b>HART</b>	HART 7, HART device description language available																														
<b>FAULTS MONITORED</b>	Low supply voltage, RAM checksum error, flash checksum error, EEPROM error, internal circuit error, relay, invalid sensor configuration, sensor faults, general system																														
<b>CABLE REQUIREMENTS</b>	3-wire shielded cable for single sensor and 4-wire shielded cable for dual sensor configurations. <i>Refer to manual for wiring and mounting distances.</i>																														
Mechanical Specifications																															
<b>HOUSING (W x H)</b>	5.88" x 5.71" (150 x 145 mm)																														
<b>W/XCELL SENSOR</b>	5.88" x 10.15" (150 x 258 mm)																														
<b>W/XCELL &amp; XIR SENSORS</b>	13.42" x 10.15" (341 x 258 mm)																														
<b>LID (DEPTH)</b>																															
<b>W/RELAY BOARD</b>	4.86" (123 mm)																														
<b>W/O RELAY BOARD</b>	3.86" (98 mm)																														
<b>WEIGHT</b>	8.8 lb. (4 kg), 316 SS																														



\* See manual for FM approved sensors.

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>.

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