



XCell Sensors

MSA XCell Sensors are a breakthrough in sensor design, enabling faster response and shorter span calibrations, saving you time and money. **ASIC** (application-specific integrated circuit) technology inside of each sensor provides greater control and higher performance than other sensors on the market.

Every XCell Sensor is built by MSA with a proprietary embedded ASIC microchip that drives the sensor and converts its output to a digital signal. This microchip is much more than a digital sensor; XCell Sensors perform real-time environmental corrections, provide plug-and-play capabilities and deliver greater RF immunity with higher overall performance.

MSA XCell Sensors have a typical life of more than four years*, double the industry average. By miniaturizing sensor controlling electronics and placing them inside of the sensor itself, MSA XCell Sensors offer superior response time, stability, accuracy, and reliability. MSA is proud to offer XCell Sensors with:

- State-of-the-art automated assembly for greater control and reliability.
- Laser-welded sensor housings to eliminate opportunities for leaks.
- End-of-sensor-life warning to minimize downtime and inventory replacement.

With less time spent on calibration and bump tests, you save on calibration gas, maintenance costs and in turn, save money. But most importantly, MSA's industry-leading response times help to save lives.



*Refers to most standard XCell Sensors. Specific exotic gas and special application sensors have shorter expected lives. Please refer to www.MSASafety.com for additional information.

Combustible

Ex Sensor

P/N 10106722

Gas:	Combustible (LEL)
Package:	Single gas
Range:	0-100% LEL or 0-5% CH ₄
Resolution:	1% LEL or 0.05% Vol CH ₄
Response Time (typ):	t(90) <15 seconds (pentane) t(90) <10 seconds (methane)
Alarm Setpoint:	Min 5% LEL/ Max 60% LEL
Warranty:	3 years

- Advantages:**
- Long life: >4-year life using dual detector beads means fewer sensor replacements over the instrument's life.
 - Durable: patented support system allows sensor to survive a 20-foot drop in an ALTAIR® 4X Multigas Detector.
 - Response: industry-leading response time not only helps to save lives, but your time and money as well.
 - Performance: run up to 3 shifts with XCell Sensor's low power consumption.
 - Resilience: extremely robust filter helps to keep sensors free of poisons and inhibitors.



Ex-M Sensor

P/N 10121212

Gas:	Combustible (LEL)
Package:	Single gas
Range:	0-100% LEL or 0-5% CH ₄
Resolution:	1% LEL or 0.05% Vol CH ₄
Response Time (typ):	t(90) <15 seconds (pentane) t(90) <10 seconds (methane)
Alarm Setpoint:	Min 2% LEL/ Max 60% LEL
Warranty:	3 years

- Advantages:**
- Specialized: additional stability for extended CH₄ exposures found in mining/liquefied natural gas (LNG) applications.
 - Long life: >4-year life using dual detector beads means fewer sensor replacements over the instrument's life.
 - Resilience: extremely robust filter helps to keep sensors free of poisons and inhibitors.



Ex-H Sensor

P/N 10121211

Gas:	Combustible (LEL)
Package:	Single gas
Range:	0-100% LEL or 0-5% CH ₄
Resolution:	1% LEL or 0.05% Vol CH ₄
Response Time (typ):	t(90) <15 seconds (pentane) t(90) <10 seconds (methane)
Alarm Setpoint:	Min 5% LEL/ Max 60% LEL
Warranty:	1 year

- Advantages:**
- Specialized: increased response to select solvents and heavy hydrocarbons (acetone, nonane, methyl ether ketone (MEK), xylene).



*Not available for CSA-approved instruments.

Oxygen

O₂ Sensor

P/N 10106729

Gas:	Oxygen
Package:	Single gas
Range:	0-30% Vol O ₂
Resolution:	0.1% O ₂
Response Time (typ):	t(90) <10 seconds
Alarm Setpoint:	Min 5% Vol/ Max 24% Vol
Warranty:	3 years
Advantages:	• Long life: >4-year life, more than 100% additional life than other lead-based sensors. • False-alarm rejection: don't be fooled; XCell Sensors are immune to pressure spikes. • Durable: when other sensors freeze, XCell Sensors keep working down to -40°C.

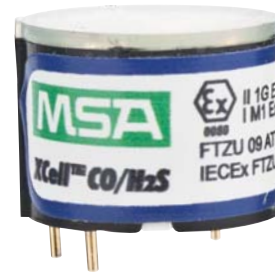


Carbon Monoxide

CO/H₂S Sensor

P/N 10106725

Gas:	Carbon monoxide
Package:	Two-tox
Range:	0-1999 ppm CO
Resolution:	1 ppm CO
Response Time (typ):	t(90) <15 seconds
Alarm Setpoint:	Min 10 ppm/ Max 1700 ppm
Warranty:	3 years
Advantages:	• Long life: >4-year life means fewer sensor replacements over the instrument's life. • Reliability: virtually no cross-channel interference brings accuracy to a new level. • Stability: when it comes to helping to savings lives, be secure in knowing that XCell Sensors are rock solid performers. • Response: industry-leading response time not only helps to save lives, but your time and money as well. • Resilience: extremely robust filter means that you see the gas of interest.



CO-HC Sensor

P/N 10121216

Gas:	Carbon monoxide (high concentration)
Package:	Single Gas
Range:	0-10,000 ppm CO
Resolution:	5 ppm CO
Response Time:	t(90) <15 seconds normal temperature
Alarm Setpoint:	Min 10ppm/ Max 8500ppm
Warranty:	3 years



- Advantages:**
- Performance: Extended range for high concentration CO applications
 - Long life: >4-year life means fewer sensor replacements over the instrument's life
 - Reliability: Feel confident that XCell Sensor's linearity provides accuracy across the entire readable range
 - Response: Industry-leading response time not only helps to save lives, but your time and money as well
 - Resilience: Extremely robust filter means that you can even operate within environments where alcohol vapors may be present

H₂S/CO H₂ RES Sensor

P/N 10121214

Gas:	Carbon monoxide (hydrogen-resistant)
Package:	Two-tox
Range:	0-1999 ppm CO
Resolution:	1 ppm CO
Response Time:	t(90) <15 seconds normal temperature
Alarm Setpoint:	Min 10ppm/ Max 1700ppm
Warranty:	3 years



- Advantages:**
- Performance: This XCell Sensor has 10 times less sensitivity to hydrogen (<5% Cross Sensitivity)
 - Long life: >4-year life means fewer sensor replacements over the instrument's life
 - Response: Industry-leading response time not only helps to save lives, but your time and money as well
 - Resilience: Extremely robust filter means that you see the gas of interest

Hydrogen Sulfide

CO/H₂S Sensor

P/N 10106725

Gas:	Hydrogen sulfide
Package:	Two-tox
Range:	0-200 ppm H ₂ S
Resolution:	1 ppm H ₂ S
Response Time (typ):	t(90) <15 seconds
Alarm Setpoint:	Min 5 ppm/ Max 175 ppm
Warranty:	3 years
Advantages:	• Long life: >4-year life means fewer sensor replacements over the instrument's life. • Response: industry-leading response time not only helps to save lives, but your time and money as well. • Stability: when it comes to helping to save lives, be secure in knowing that XCell sensors are rock solid performers.



CO/H₂S-LC Sensor

P/N 10121213

Gas:	Hydrogen sulfide (low concentration)
Package:	Two-tox
Range:	0-100 ppm H ₂ S
Resolution:	0.1 ppm H ₂ S
Response Time (typ):	t(90) <15 seconds
Alarm Setpoint:	Min 1 ppm/ Max 70 ppm
Warranty:	3 years
Advantages:	• Long life: >4-year life means fewer sensor replacements over the instrument's life. • False-alarm rejection: don't be fooled; increased sensitivity means fewer false alarms, allowing you to work uninterrupted. • Response: industry-leading response time not only helps to save lives, but your time and money as well.



Sulfur Dioxide

SO₂ Sensor

P/N 10106727

Gas:	Sulfur dioxide
Package:	Single gas
Range:	0-20 ppm SO ₂
Resolution:	0.1 ppm SO ₂
Response Time (typ):	t(90) <10 seconds
Alarm Setpoint:	Min 0.5 ppm/ Max 17.5 ppm
Warranty:	3 years
Advantages:	• Long life: >4-year life outlasts competition by more than 33%. • Response: industry-leading response time not only helps to save lives, but your time and money as well. • Resilience: XCell Sensors continues to perform within low humidity environments when others do not.



H₂S/SO₂ Sensor

P/N 10121215

Gas:	Sulfur dioxide
Package:	Two-tox
Range:	0-20 ppm SO ₂
Resolution:	0.1 ppm SO ₂
Response Time (typ):	t(90) <15 seconds
Alarm Setpoint:	Min 1 ppm/ Max 17.5 ppm
Warranty:	3 years
Advantages:	• Long life: >4-year life outlasts competition by more than 33%. • Response: industry-leading response time not only helps to save lives, but your time and money as well. • Resilience: XCell Sensors continues to perform within low humidity environments when others do not.



Nitrogen Dioxide

CO/NO₂ Sensor

P/N 10121217

Gas:	Nitrogen dioxide
Package:	Two-tox
Range:	0-50 ppm NO ₂
Resolution:	0.1 ppm NO ₂
Response Time (typ):	t(90) <15 seconds
Alarm Setpoint:	Min 1 ppm/ Max 47.5 ppm
Warranty:	3 years



- Advantages:**
- Long life: >4-year life means fewer sensor replacements over the instrument's life.
 - Response: industry-leading response time not only helps to save lives, but your time and money as well.
 - Stability: when it comes to helping to save lives, be secure in knowing that XCell Sensors are rock solid performers.

Ammonia

NH₃ Sensor

P/N 10106726

Gas:	Ammonia
Package:	Single gas
Range:	0-100 ppm NH ₃
Resolution:	1 ppm NH ₃
Response Time (typ):	t(90) <40 seconds
Alarm Setpoint:	Min 10 ppm/ Max 75 ppm
Warranty:	2 years



- Advantages:**
- Long life: >3-year life with patent-pending non-consuming reaction outlasts competition by more than 50%.
 - Resilience: XCell NH₃ Sensors recover from repeated exposures, meaning fewer sensor replacements.
 - Response: industry-leading response time not only helps to save lives, but your time and money as well.

**Not suitable for use in NH₃-enriched environment*

Chlorine

Cl₂ Sensor

P/N 10106728

Gas: Chlorine

Package: Single gas

Range: 0-10 ppm Cl₂

Resolution: 0.05 ppm Cl₂

Response Time (typ): t(90) <30 seconds

Alarm Setpoint: Min 0.3 ppm/ Max 7.5 ppm

Warranty: 2 years

- Advantages:**
- Life: >3-year life, patent-pending non-consuming reaction outlasts competition by more than 50%.
 - Response: industry-leading response time not only helps to save lives, but your time and money as well.
 - Stability: when it comes to helping to save lives, be secure in knowing that XCell Sensors are rock solid performers.
 - Resilience: XCell Sensors continue to perform within low humidity environments when others do not.



Additional toxic sensors available for detection of PH₃, HCN, ClO₂, NO, and CO₂ in the ALTAIR 5X Multigas Detector.

XCell Sensor Applications

	Combustible			Oxygen	Carbon Monoxide			Hydrogen Sulfide		Sulfur Dioxide		Nitrogen Dioxide	Ammonia	Chlorine
	Ex	Ex-M	Ex-H	O ₂	CO/H ₂ S	CO-HC	H ₂ S/CO H ₂ RES	CO/H ₂ S	CO/ H ₂ S-LC	SO ₂	H ₂ S/SO ₂	CO/NO ₂	NH ₃	Cl ₂
AEROSPACE	■			■										
AGRICULTURE	■			■	■			■	■			■	■	
AUTOMOTIVE	■			■						■	■	■		
AVIATION	■			■								■		
CHEMICAL	■		■		■			■	■	■	■	■	■	■
FIRE	■			■	■			■	■					
FOOD/BEVERAGE	■			■	■			■	■	■	■	■	■	■
FOUNDRIES	■			■	■			■	■	■	■	■		
HAZMAT	■			■	■			■	■	■	■		■	
HEAVY MANUFACTURING	■			■	■			■	■	■	■	■	■	
HVAC	■			■								■	■	
INDOOR AIR QUALITY	■			■										
MARINE	■				■			■	■			■	■	■
MEDICAL	■												■	
MINING		■		■	■	■		■	■			■		
OIL/GAS/PETROLEUM	■	■	■	■	■			■	■	■	■		■	
PAPER/PULP	■									■	■	■	■	■
PHARMACEUTICAL	■									■	■		■	■
POWER	■									■	■	■	■	
SEMICONDUCTOR	■											■	■	■
STEEL	■				■	■	■	■	■	■	■	■	■	
WATER/WASTEWATER	■				■			■	■	■	■		■	■
WELDING	■											■	■	

*Additional sensors available for detection of PH₃, HCN, ClO₂, NO, and CO₂ in the ALTAIR 5X Multigas Detector.

XCell Sensor Instrument Compatibility

	Ex	Ex-M	Ex-H	O ₂	CO/H ₂ S	CO-HC	H ₂ S/CO H ₂ RES	CO/ H ₂ S-LC	SO ₂	H ₂ S/SO ₂	CO/NO ₂	NH ₃	Cl ₂
ALTAIR 4X MULTIGAS DETECTOR	YES	YES	YES	YES	YES	NO	YES	YES†	NO	YES†	YES†	NO	NO
ALTAIR 5X MULTIGAS DETECTOR	YES	YES	YES	YES	YES	YES‡	YES	YES‡	YES	NO	YES‡	YES	YES

† Requires ALTAIR 4X Multigas Detector software version 2.03 or greater
‡ Requires ALTAIR 5X Multigas Detector software version 1.27.06 or greater



MSA—The Safety Company

Our business is safety. We've been the world's leading manufacturer of high-quality safety products since 1914. MSA products may be simple to use and maintain, but they're also highly-sophisticated devices and protective gear — the result of countless R&D hours, relentless testing, and an unwavering commitment to quality that saves lives and protects thousands of men and women each and every day. Many of our most popular products integrate multiple combinations of electronics, mechanical systems, and advanced materials to ensure that users around the world remain protected in even the most hazardous of situations.

Our dedication to safety has been the key to our impressive year-over-year growth. In 8 of the past 10 years we've achieved record growth numbers, with annual revenues of more than \$1 billion.

Our Mission

MSA's mission is to see to it that men and women may work in safety and that they, their families, and their communities may live in health throughout the world.

MSA: Because every life has a purpose.

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 0800-71-MC / November 2013
© MSA 2013 Printed in U.S.A.

MSA Corporate Center
1000 Cranberry Woods Drive
Cranberry Township, PA 16066 USA
Phone 724-776-8600
www.MSAafety.com

U.S. Customer Service Center
Phone 1-800-MSA-2222
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

MSA International
Phone 724-776-8626
Toll Free 1-800-672-7777
Fax 724-741-1559
Email msa.international@msafety.com

Offices and representatives worldwide
For further information: