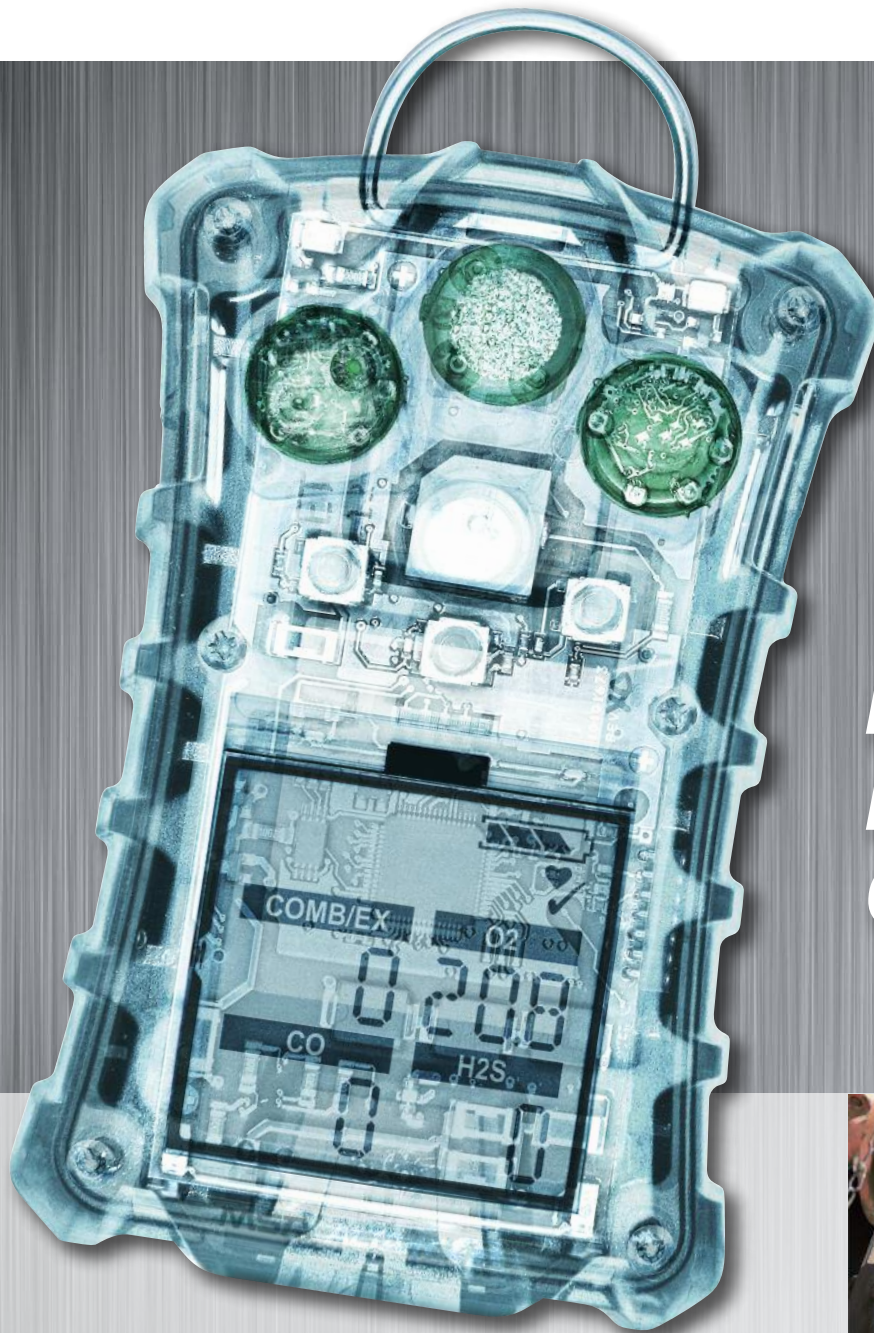


# ALTAIR® 4X Multi-Gas Detector

with MSA XCell® Sensor Technology



**IT'S WHAT'S  
INSIDE THAT  
COUNTS...**



**XCell™**  
SENSORS



*Because every life has a **purpose...***

## Performance **beyond what you see**

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***Our Vision of Safety.*** Workers who face potentially dangerous situations deserve the best protection available. At MSA, we work tirelessly to build smarter, better gas detection instruments that people across the world can rely on. To that end, we're proud to make available for the workers all around the world the most advanced technology available in any portable gas detector on the market: the **ALTAIR 4X Multi-Gas Detector with XCell Sensor Technology.**

### Built on Durability

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The ALTAIR 4X Multi-Gas Detector measures up to four gases from a wide range of sensor options including LEL, O<sub>2</sub>, CO, H<sub>2</sub>S, NO<sub>2</sub> and SO<sub>2</sub>. It is as tough and functional as it looks. A rugged housing IP 67 (dust and water proof) provides unsurpassed durability, including the ability to withstand a 6 m drop onto concrete. And with large, glove-friendly buttons and a high-contrast display, the ALTAIR 4X Multi-Gas Detector is easy to operate in any work environment, even low-light conditions.

### Powered by Performance

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Toughness and durability aren't the whole story. The real strength of the ALTAIR 4X Multi-Gas Detector comes from the sensor technology. MSA XCell Sensors are designed for an average life of more than four years, double the industry average, and are engineered using MSA's proprietary application-specific integrated circuit (ASIC) design. By miniaturizing the sensors' controlling electronics and placing them inside the sensor itself, MSA XCell Sensors offer superior stability under extreme environmental conditions, accuracy and repeatability.

MSA XCell Sensors are a breakthrough in chemical and mechanical sensor design, enabling faster response and calibration times. With less time spent on calibration and bump tests, you save calibration gas, maintenance costs and, in turn, save money. But most importantly, in your industry, saving seconds on response time can also mean saving lives.

### Count on the ALTAIR® 4X

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Exclusive safety features like MotionAlert and InstantAlert make the ALTAIR 4X Multi-Gas Detector ideal for applications like confined space entry. The MotionAlert sensor activates when a user becomes disabled and motionless, quickly alerting others to the disabled user's location. And with a simple push of a button, the InstantAlert feature enables users to manually alert others to potentially hazardous situations.

The detector comes with a full three-year warranty, an entire year longer than the industry average, so you can depend on the ALTAIR 4X Multi-Gas Detector to withstand the wear and tear that other portable gas detectors can't.

### The MSA Commitment

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From the latest in sensor technology to instrument design and manufacturing, MSA has the capabilities and knowledge to support your portable gas detection challenges.

# XCell<sup>®</sup>

S E N S O R S

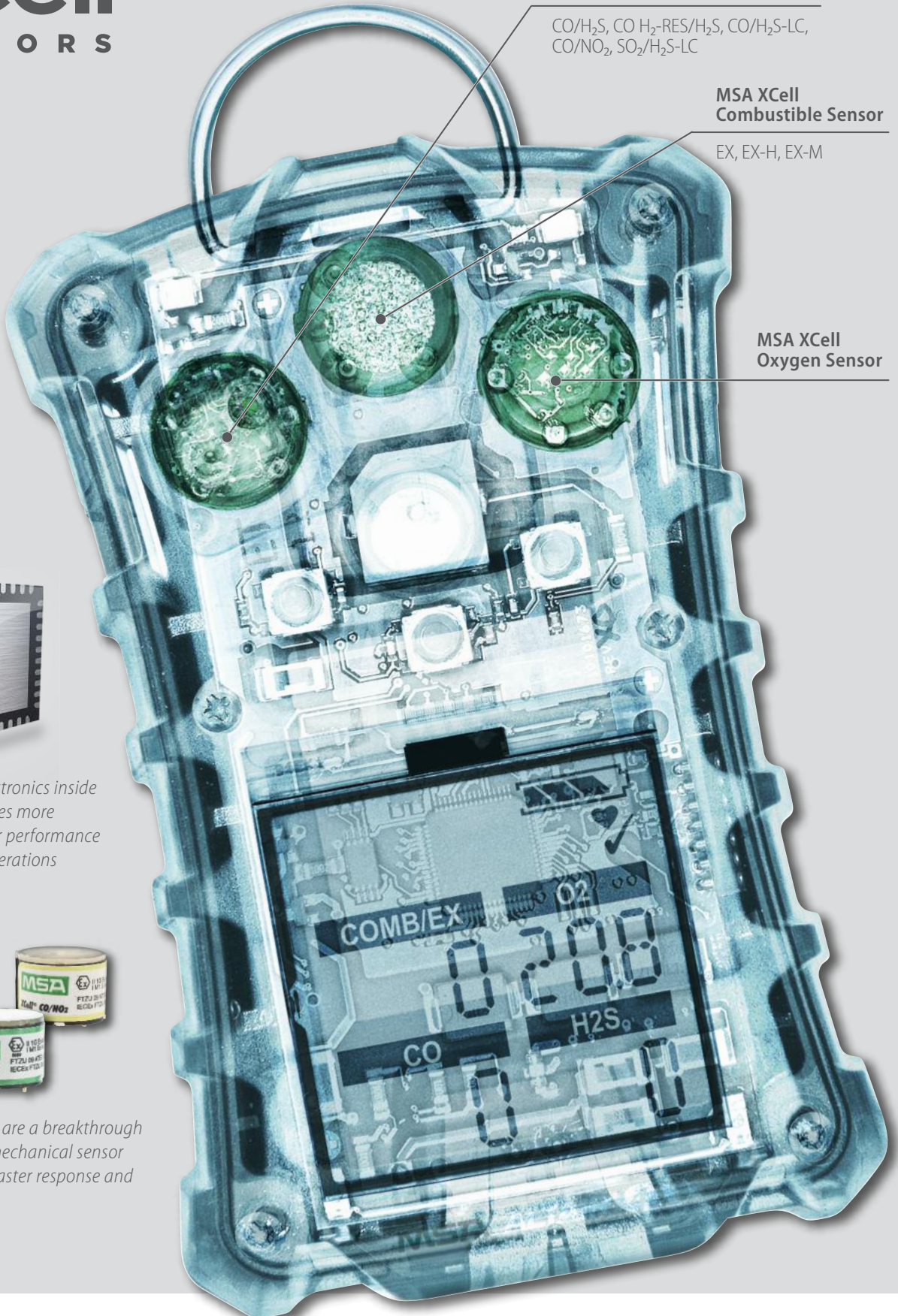
**MSA XCell  
Two-Tox Sensors**

CO/H<sub>2</sub>S, CO H<sub>2</sub>-RES/H<sub>2</sub>S, CO/H<sub>2</sub>S-LC,  
CO/NO<sub>2</sub>, SO<sub>2</sub>/H<sub>2</sub>S-LC

**MSA XCell  
Combustible Sensor**

EX, EX-H, EX-M

**MSA XCell  
Oxygen Sensor**



*Adding micro-electronics inside the sensors provides more control and higher performance than previous generations*



*MSA XCell Sensors are a breakthrough in chemical and mechanical sensor design, enabling faster response and calibration times*

## MSA XCell Technology: Save Time, Save Money, Save Lives

### Building on years of sensor design experience, MSA is revolutionizing sensor technology with breakthroughs in design that improve performance.

- Sensor response and clear times under 15 seconds
- Bump test under 15 seconds
- Span calibration time under 60 seconds
- Greater signal stability and repeatability under changing or extreme environmental conditions
- The digital output of the sensors makes them much less susceptible to RF interference
- Two-tox CO/H<sub>2</sub>S sensor with virtually no cross-channel interference
- Two-tox CO H<sub>2</sub>-RES/H<sub>2</sub>S sensor with very low cross-sensitivity to Hydrogen <5%
- Two-tox CO/H<sub>2</sub>S-LC sensor for better performance at lower H<sub>2</sub>S concentration
- First Two-tox CO/NO<sub>2</sub> and SO<sub>2</sub>/H<sub>2</sub>S-LC sensors with such an extended typical life

### With reliable, extended-life XCell Sensors, there's no need to replace sensors after two years.

- Typical life greater than four years
- Laser-welded sensor housings eliminate opportunities for leaks
- Proprietary operating mode of the combustible sensor helps it stand up to poisons over the life of the sensor
- End-of-sensor-life indicator gives advanced warning to user, eliminating service outages



## Technology That's Tough

### Life-Saving Performance

- Large buttons and a bright display enable quick and easy operation even while wearing gloves
- If a user becomes disabled due to unforeseen hazards, the MotionAlert sensor will activate after 30 seconds
- The InstantAlert feature enables users to manually alert others of a dangerous situation with the push of a button
- Compatible with GALAXY GX2 Automated Test System
- MSA Link Software-ready
- Global approvals for worldwide acceptance

### Lasting Durability

- Full three-year warranty supports the entire detector, including the sensors and battery
- Withstands extreme impacts with rugged polycarbonate housing
- Passes 6 m drop test
- The IP67-rated ALTAIR 4X is both dust tight and water tight

## Applications/Markets

- |                                    |                                |
|------------------------------------|--------------------------------|
| • Oil, gas and petrochemical       | • Municipal works, waste water |
| • Pharmaceutical                   | • Mining                       |
| • Chemical                         | • Construction                 |
| • Confined spaces                  | • Steel                        |
| • Fire service                     | • Marine                       |
| • Utilities and telecommunications | • Energy                       |



*Exclusive glow-in-the-dark housing for dark environments or to differentiate your instruments fleet*

MSA-exclusive  
feature

MSA Link Software-ready

Rugged stainless steel  
clip

Ultra-bright LEDs  
on top and bottom

MotionAlert sensor  
signals "man down"

MSA XCell Sensors  
with protected  
sensor inlet

InstantAlert feature  
allows users to  
manually alert others  
to a dangerous  
situation

95+ dB alarm

Large buttons for  
easy operation

24-hour  
battery run time

End-of-sensor-life  
warning

Easy bump-check  
mode with 24-hour  
checkmark indicator

Large, backlit  
high-contrast liquid  
crystal display

Durable, rubberized  
housing for secure  
grip



## Technical Specifications and Ordering Information

XCell Sensors Range and Resolution		
Gas	Range	Resolution
LEL	0–100%	1%
O <sub>2</sub>	0–30% vol	0.1% vol
CO	0–1999 ppm	1 ppm
CO H <sub>2</sub> -RES	0–1999 ppm	1 ppm
H <sub>2</sub> S	0–200 ppm	1 ppm
H <sub>2</sub> S-LC	0–100 ppm	0.1 ppm
SO <sub>2</sub>	0–20 ppm	0.1 ppm
NO <sub>2</sub>	0–50 ppm	0.1 ppm

Technical Specifications	
Drop test	6 m
Housing	Rugged rubberized armor
Weight	222 g
Dimensions (H x W x D)	112 x 76 x 35 mm
Audible alarm	>95 dB at 30 cm
Visual alarm	4 ultra-bright LEDs on top and bottom
Vibrating alarm	Standard
MotionAlert & InstantAlert	Standard
Display	High-contrast LCD
Backlight	Adjustable time-out
Battery	Rechargeable li-polymer
Run time	24 hour @ room temperature
Charging time	< 4 hrs
Operating temperature range	–20 °C to +50 °C
Short period operation	–40 °C to +60 °C
Humidity	15–90% RH non-condensing
Ingress protection	IP67
Data log	Standard, 50 hours minimum
Event log	Standard 500 events
Standard warranty	3 years*
Extended warranty	Optional 1 year

Approvals	
ATEX	II 1G Ex ia IIC T4, –40 °C to +60 °C, IP 67 (Zone 0 with no combustible sensor installed) II 2G Ex ia d IIC T4, –40 °C to +60 °C, IP 67 (Zone 1 with combustible sensor installed)
Performance	EN 60079-29-1:2007, EN 50104:2002, EN 50104:2002/A1, 2004, EN 50271:2001, EN 45544-1:1999, EN 45544-2:1999
CE	Conformance according electromagnetic compatibility (EMC) Directive 2004/108, EN 50270
MED	Conformance according to the Marine Equipment Directive (MED) 2009/26
	Conformance according to the European Battery and Accumulators Directive 2006/66 EC

ALTAIR 4X with quick-start card, data logging, charger, calibration cap and tubing		
ATEX	Configuration	Housing Color
10110453	LEL, O <sub>2</sub> , CO, H <sub>2</sub> S	Charcoal
10110456	LEL, O <sub>2</sub> , CO, H <sub>2</sub> S	Phosphorescent
10126261	LEL, O <sub>2</sub> , CO, H <sub>2</sub> S-LC	Charcoal
10146853	LEL, O <sub>2</sub> , H <sub>2</sub> S-LC, SO <sub>2</sub>	Charcoal
10146839	LEL, O <sub>2</sub> , CO, NO <sub>2</sub>	Charcoal
10110454	LEL, O <sub>2</sub> , CO	Charcoal
10110458	LEL, O <sub>2</sub>	Phosphorescent

ALTAIR 4X can be configured for your individual requirements. Some of the popular configurations are listed above.

Calibration Gas	
10053022	Gas Can (58L), 1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 20 H <sub>2</sub> S, 60 CO
10122425	Gas Can (34L), 1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 60 CO, 20 H <sub>2</sub> S, 10 SO <sub>2</sub>
10143308	Gas Can (34L), 1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 60 CO, 10 NO <sub>2</sub>

Replacement Sensors	
10106722	XCell EX combustible sensor
10121211	XCell EX-H combustible sensor
10121212	XCell EX-M combustible sensor
10106729	XCell O <sub>2</sub> sensor
10106725	XCell CO/H <sub>2</sub> S two-tox sensor
10121214	XCell CO H <sub>2</sub> RES/H <sub>2</sub> S- two-tox sensor
10121213	XCell CO/H <sub>2</sub> S-LC two-tox sensor
10121217	XCell CO/NO <sub>2</sub> two-tox sensor
10121215	XCell SO <sub>2</sub> /H <sub>2</sub> S-LC two-tox sensor

GALAXY GX2 Automated Test System	
10128651	GALAXY GX2, ALTAIR 4/4X, 1 Valve
10128640	GALAXY GX2, ALTAIR 4/4X, 4 Valve
10128639	GALAXY GX2, ALTAIR 4/4X, Charging, 1 Valve
10128638	GALAXY GX2, ALTAIR 4/4X, Charging, 4 Valve
10105756	Smart Electronic Cylinder Holder w/ integrated DFR

Accessories	
10152668	ALTAIR Pump Probe (European charger included)
10153040	ALTAIR Pump Probe (without charger)
10127423	Vertical Multi-Unit Charger for four ALTAIR 4X
10095774	Vehicle charger
10088099	MSA Link Software CD-ROM
10082834	JetEye IR Adapter with USB connector

\* XCell EX-H sensor warranty is 1 year (especially developed for solvents and heavy hydrocarbons)