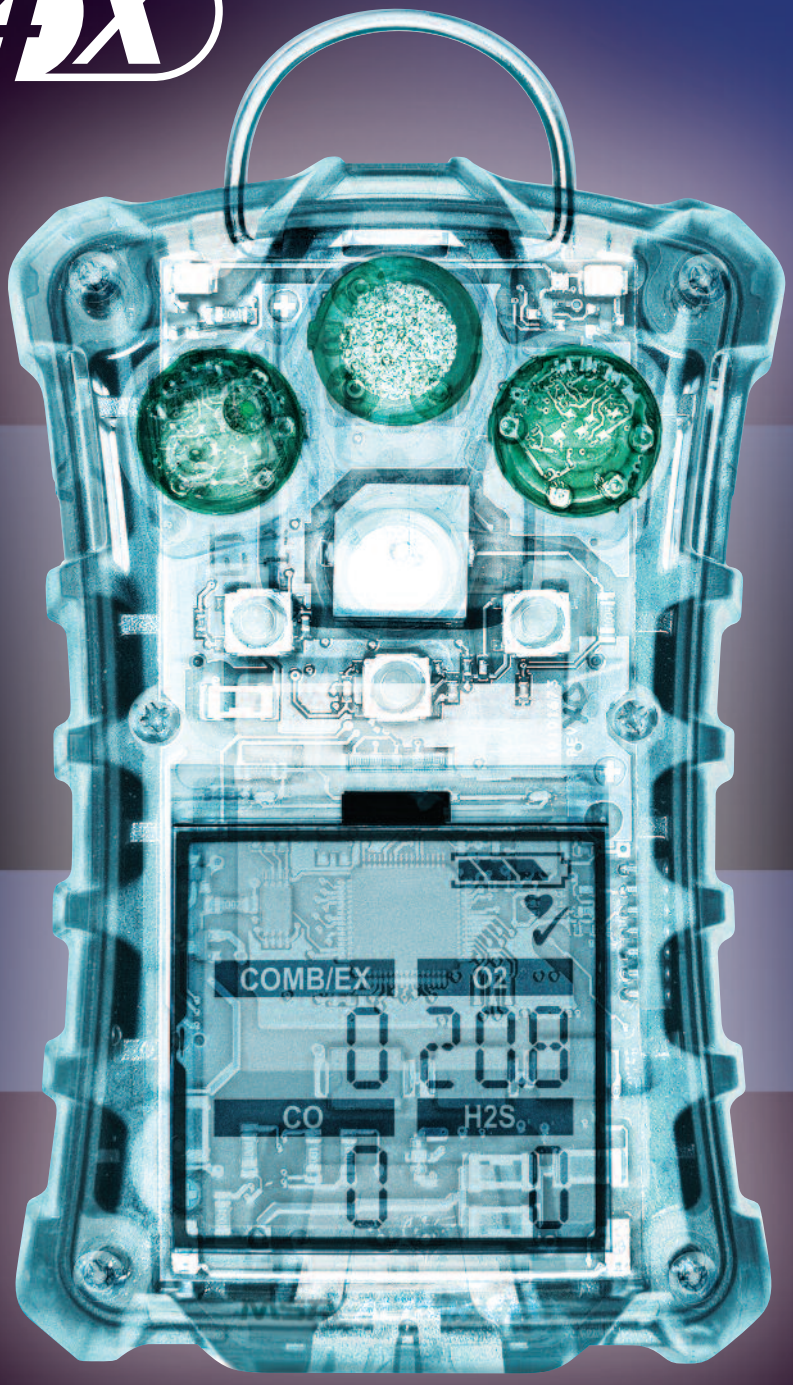
# ALTAIR® 4X




## IT'S WHAT'S INSIDE THAT COUNTS

ALTAIR 4X Multigas Detector
With MSA XCell® Sensor Technology

MSA
The Safety Company


Rugged stainless steel clip

MSA Link™ Software-ready

Ultra-bright LEDs on unit's top and bottom

MotionAlert feature 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, high-contrast liquid crystal display

Durable, rubberized housing for secure grip

MSA-exclusive feature

# IT'S WHAT'S INSIDE THAT COUNTS

**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 upon which people of the world rely. To that end, we're proud to introduce the most advanced technology available in any portable gas detector on the market: **the ALTAIR 4X Multigas Detector with XCell Sensor Technology.**

## Built on Durability

The ALTAIR 4X Multigas Detector for LEL, CO, H2S, and O2 is as tough and functional as it looks. Rugged housing provides unsurpassed durability, including the ability to survive a 20-foot drop. And with large, glove-friendly buttons and a high-contrast display, the ALTAIR 4X Multigas Detector is easy to operate in any work environment, even low-light conditions.

## Powered by Performance

Toughness and durability aren't the whole story. The real strength of the ALTAIR 4X Multigas Detector comes from new sensor technology. MSA XCell Sensors have a typical 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, accuracy, and repeatability.

MSA XCell Sensors are a breakthrough in chemical and mechanical sensor design, enabling faster response and span 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 Multigas Detector

Exclusive safety features such as MotionAlert™ and InstantAlert™ features make the ALTAIR 4X Multigas Detector ideal for applications such as confined space entry. MotionAlert feature 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, InstantAlert feature enables users to manually alert others to potentially hazardous situations.

The ALTAIR 4X Multigas Detector outlasts the competition. To prove it, the instrument comes with a full three-year warranty, an entire year longer than the industry average, so you can depend upon the ALTAIR 4X Multigas Detector to withstand the wear and tear that other portable gas detectors can't.

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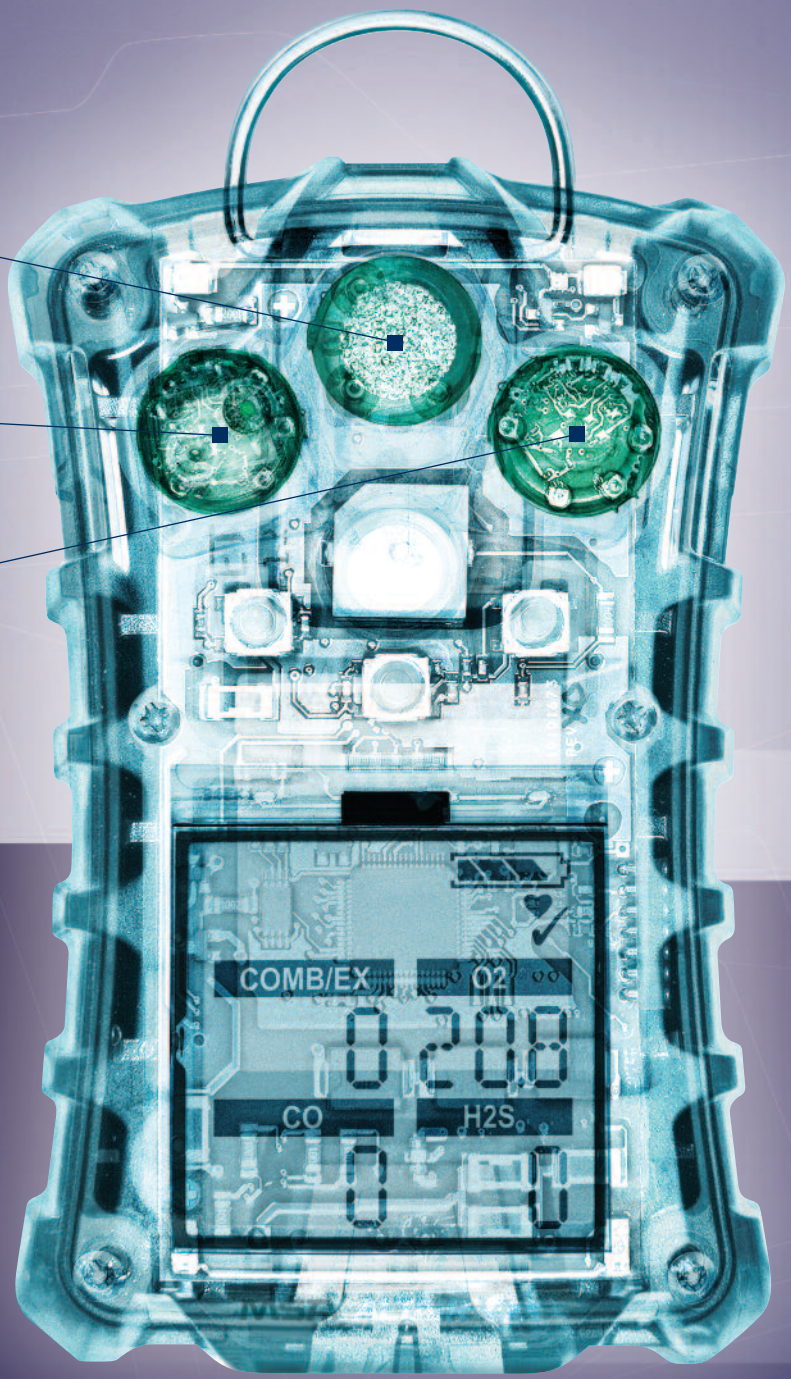
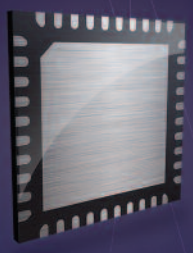
# XCell® SENSORS




**MSA XCell Combustible Sensor**

**MSA XCell CO/H2S Sensor**

**MSA XCell Oxygen Sensor**



**Adding microelectronics 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 span calibration times**

**THE MSA COMMITMENT** FROM THE LATEST IN SENSOR TECHNOLOGY TO INSTRUMENT DESIGN AND MANUFACTURING, MSA HAS THE CAPABILITIES AND KNOWLEDGE TO SUPPORT YOUR PORTABLE GAS DETECTION CHALLENGES.

www.msanet.com/Altair4X | 1.800.MSA.2222

**MSA XCell Technology:**

# Save Time, Save Money, Save Lives

### Building on years of sensor design experience, MSA has revolutionized sensor technology with breakthroughs that improve performance.

- Sensor response and clear times under 15 seconds
- Bump test under 15 seconds
- Span calibration time of 60 seconds
- Greater signal stability and repeatability under changing or extreme environmental conditions
- Two-tox CO/H2S sensor with virtually no cross-channel interference
- Sensor digital output reduces RF interference susceptibility

### 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
- Combustible sensor's proprietary operating mode helps it to resist poisons over the sensor's life
- End-of-sensor-life warning gives advanced notice to user, reducing service outages

# Technology That's Tough

## Life-Saving Performance

- Large buttons and bright display enable quick and easy operation even while wearing gloves
- If a user becomes disabled due to unforeseen hazards, MotionAlert feature will activate after 30 seconds
- InstantAlert feature enables users to manually alert others of a potentially hazardous situation with the push of a button
- Compatible with Galaxy® Test System and ALTAIR 4 QuickCheck® Station
- MSA Link™ Software-ready
- Global approvals for worldwide acceptance

## Lasting Durability

- Full three-year warranty supports the entire instrument, including the sensors and battery
- Withstands extreme impacts with rugged polycarbonate housing
- Passes 20-foot drop test
- The IP67-rated ALTAIR 4X Multigas Detector is both dust tight and water tight

## Applications

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

**New glow-in-the-dark housing for mining or confined spaces applications**

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## Technical Specifications

| Gas | Range | Resolution |
|---|---|---|
| LEL | 0-100% | 1% |
| $O_2$ | 0-30% vol | 0.1% vol |
| CO | 0-1999 ppm | 1 ppm |
| $H_2S$ | 0-200 ppm | 1 ppm |
| $H_2S$-LC | 0-100 ppm | 0.1 ppm |

| | |
|---|---|
| **Drop test** | 20 feet |
| **Housing** | Rugged rubberized armor |
| **Weight** | 7.9 oz |
| **Dimensions (L x W x D)** | 4.4 x 3.0 x 1.31 |
| **Audible alarm** | >95 dB at 1 ft |
| **Visual alarm** | 4 ultra-bright LEDs on top and bottom |
| **Vibrating alarm** | Standard |
| **MotionAlert & InstantAlert** | Optional |
| **Display** | High-contrast LCD |
| **Backlight** | Adjustable time-out |
| **Battery** | Rechargeable li-polymer |
| **Run time** | 24 hours @ room temperature |
| **Charging time** | < 4 hrs |
| **Operating temperature range** | –20ºC to + 50ºC |
| **Short Period Operation** | –40 °C to + 60 °C |
| **Humidity** | 15 – 90% RH non-condensing |
| **Ingress protection** | IP67 |
| **Data log** | (Adjustable) 50 hour minimum |
| **Event log** | Standard 500 events |
| **Standard warranty** | 3 years |
| **Extended warranty** | Optional 1 year |

*For additional customized versions and calibration gases, use MSA's ATO ordering sheet or contact MSA Customer Service at 1-800-MSA-2222.*

## ALTAIR 4X Multigas Detector with 3-year warranty, data logging, charger, calibration cap, and tubing

| Approvals | | | | |
|---|---|---|---|---|
| ***U.S./CAN*** | ***ATEX*** | ***ANZ*** | ***Configuration*** | ***Case Color*** |
| 10107602 | 10110453 | 10110447 | LEL, $O_2$, CO, $H_2S$ | Charcoal |
| 10107603 | 10110456 | 10110450 | LEL, $O_2$, CO, $H_2S$ | Phosphorescent |
| 10110443 | 10110454 | 10110448 | LEL, $O_2$, CO | Charcoal |
| 10110445 | 10110457 | 10110451 | LEL, $O_2$, CO | Phosphorescent |
| 10110444 | 10110455 | 10110449 | LEL, $O_2$ | Charcoal |
| 10110446 | 10110458 | 10110452 | LEL, $O_2$ | Phosphorescent |

## ALTAIR 4X Multigas Detector, 4-gas, in black case with calibration cylinder and 0.25 lpm regulator

| ***U.S./CAN Approval*** | ***Configuration*** | ***Case Color*** |
|---|---|---|
| 10110488 | LEL, $O_2$, CO, $H_2S$ | Charcoal |
| 10110489 | LEL, $O_2$, CO, $H_2S$ with Universal Pump Probe | Charcoal |

## ALTAIR 4 Galaxy Automated Test System

| Power Supply | | |
|---|---|---|
| ***North America*** | ***Global*** | ***Configuration*** |
| 10089998 | 10090001 | Standard system |
| 10089996 | 10090000 | Standard system with charging capability and cylinder holder |
| 10089969 | 10089970 | Smart system (memory card) |
| 10089967 | 10089966 | Smart system (memory card) with charging capability and cylinder holder |

## *Calibration Gas*

| | |
|---|---|
| 10048280 | Gas cylinder (34 l) 1.45% CH4, 15% O2, 60 ppm CO, 20 ppm H2S |
| 10045035 | Gas cylinder (54 l) 1.45% CH4, 15% O2, 60 ppm CO, 20 ppm H2S |

## *Replacement sensors*

| | |
|---|---|
| 10106722 | XCell Ex Combustible Sensor |
| 10106729 | XCell $O_2$ Sensor |
| 10106725 | XCell CO/$H_2S$ Two-tox Sensor |
| 10121213 | XCell CO/$H_2S$-LC Two-tox Sensor |

## *Accessories*

| | |
|---|---|
| 10055576 | Universal Pump Probe (U.S./CAN) |
| 10047594 | Universal Pump Probe (ANZ/IEC) |
| 10047596 | Universal Pump Probe (ATEX) |

## *Approvals*

### United States
ETL Class I, Div. 1, Groups A,B,
C&D Tamb=-40°C to +54°C
ETL Class II, Div.1, Groups E,F&G
Class III, Div. 1 Tamb=-40°C to +54°C; T4

### Canada
CSA Class I, Div. 1, Groups A,B,C&D
CAN/CSA C22.2 152; 12.13.01-2000
ETL Class II, Div.1, Groups E,F&G
Class III, Div. 1 Tamb=-40°C to +54°C; T4

### ATEX
II 1G Ex ia IIC T4, -40°C to +60°C, IP67
(Zone 0 with no combustible sensor installed)
II 2G Ex ia d IIC T4, -40°C to +60°C, IP67
(Zone 1 with combustible sensor installed)

### IEC
Ex ia IIC T4, -40°C to +60°C
(Zone 0 with no combustible sensor installed)
Ex ia d IIC T4, -40°C to +60°C
(Zone 1 with combustible sensor installed

### Australia / New Zealand
Ex ia s IIC T4, -40°C to +60°C, IP67 (Zone 0)

**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.

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MSA
*The Safety Company*

# ALTAIR® 4X Multigas Detector

With MSA XCell™ Sensor Technology

## Frequently Asked Questions

### 1 The ALTAIR 4X Multigas Detector uses the NEW MSA XCell Sensors. Aren't all electrochemical and catalytic bead sensors basically the same?

All sensors are **not** the same. Sensors are the heart of an instrument; sensor performance can vary greatly depending upon manufacturer. Most multigas detectors use the same sensors from the same few global suppliers. MSA has designed a superior gas detection sensor platform specifically optimized for MSA gas detectors. MSA XCell Sensors are designed for longer life, faster response, and higher performance when used with MSA's ALTAIR 4X Multigas Detector.

MSA has designed and manufactured gas detection sensors and instruments for decades. Our experts are there to support you with any product or application concerns, allowing you to focus on your core business.

### 2 I read that every MSA XCell Sensor is built with an embedded application specific integrated circuit (ASIC). What is an ASIC and why is it important?

An ASIC is a microchip specifically designed for one application. ASIC's are most commonly associated with consumer electronics that have been greatly reduced in size over the years (i.e. cellular phones). In ASIC development a complete electronic circuit with multiple larger components is reduced to one tiny microchip dedicated to a specific purpose, such as sensor control.

In recent years MSA has developed its own sensor ASIC. This chip contains a microprocessor, all circuits to drive and compensate the sensor, and a digital signal converter.

Every MSA XCell Sensor contains an ASIC. This chip is much more than a **smart** sensor; digital XCell Sensors perform real-time environmental corrections and provide plug-and-play capabilities, greater RF immunity, and a higher overall performance level. Due to digital output, this sensor is not backwards-compatible with older MSA instruments, but instead establishes MSA's future product platform.


### 3 Historically, oxygen ($O_2$) sensor technology is seen as a weak link and the first to die in every instrument. How does MSA's XCell $O_2$ Sensor actually achieve a typical lifespan of more than four-years?

Most $O_2$ sensors on the market today use a consumable chemical reaction where a piece of lead is consumed and converted to lead oxide. These sensors have a very finite life. Once enough lead is gone, the sensor stops working.

The MSA XCell $O_2$ Sensor uses a non-consumable chemical reaction. $O_2$ is converted to water and then back to $O_2$. The sensor does not "use itself up" each time it sees $O_2$, generating a much longer shelf-life and overall lifespan.

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## 4 Catalytic bead sensors can be poisoned over time by silicone, sulfur, and lead compounds. How does MSA achieve a typical four-year lifespan with XCell Ex Sensor? Does this sensor offer more poison resistance?

While XCell Ex Sensors provide greatly-improved poison resistance, this feature alone does not provide a four-year lifespan. The XCell Sensor actually uses two separate detectors inside the sensor. The design is such that only one inner detector can be actively poisoned at a time, effectively doubling useful sensor life.

## 5 How does the ALTAIR 4X Detector *end-of-sensor-life warning* and *indicator* work?

Following each calibration, a software algorithm calculates the approximate life remaining for each sensor. When it is determined that the sensor is nearing its end-of-life, the instrument displays the end-of-life warning for that particular sensor. Users are given advanced notice (four to six weeks, typical use) that a sensor is nearing its end of life to plan for replacement. The instrument and sensor can continue to be used after the end-of-sensor-life warning as long as regular bump tests are passed.

If sensor output during calibration is too low, the unit will fail calibration and the end-of-sensor-life indicator will be displayed on the instrument screen. This tells the user that the end of the sensor's useful life has been reached and that the instrument should not be used until the sensor is replaced.


## 6 How does the ALTAIR 4X Detector save me money on calibration gas costs?

Calibration gas is expensive; the ALTAIR 4X Detector uses much less calibration gas due to faster-performing sensors and lower required gas flow rate during calibration and bump testing.

MSA uses a standard 0.25 lpm gas flow rate for calibrations and bump tests. Most competitors use 0.5 lpm regulators which consume twice the calibration gas as the ALTAIR 4X Detector.

Also, faster sensors mean faster span calibration and bump tests. If all of your bump tests and span calibrations are a third faster, then you'll use a third less gas over the life of the instrument. The ALTAIR 4X Detector has a 60-second span calibration time and <15-second bump test time.

Based upon these facts, you'll save **hundreds of dollars** over the life of each instrument.

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# Multigas Detector

[ Bid Specifications ]

| Physical Characteristics | |
|---|---|
| Size | Instrument shall not exceed 4.4” L x 2.0” W x 1.37” D in total size. |
| Weight | Less than 7.9 oz. |
| Handling | Unit shall be a one-hand operation device. |
| Case material | Rubberized over-mold. |
| Environmental protection | Instrument shall be approval agency certified to IP67 protection levels for dust and water ingress. |
| Display | Display is viewable from the front with characters at least 0.3” tall. |
| Color | Charcoal - shall have an option for a phosphorescent (glow-in-the-dark) case. |

| User Interfaces | |
|---|---|
| Display type | Liquid crystal display [LCD] with large, easy-to-read characters and Icons. |
| Backlight | Unit must be provided with white backlight for low-light viewing. Backlight time-out to conserve power must be user adjustable. |
| Keypad/switches | Unit must have no more than three switches or pushbuttons to operate. There shall be no requirement to access hidden or internal switches for any instrument operations. Buttons must be easy to operate with gloves on. |
| Data access | Access to the data log and event log through infrared link to Windows-ready PCs. |

| Monitoring Capability | |
|---|---|
| Gases | Instrument shall be capable of measuring up to four gases: combustible gas, oxygen, CO, and H2S. |
| Sensor configuration | Ability to enable/disable individual sensor channels. |
| Sensor missing alarm | All sensor channels provide a missing sensor alarm if sensor has been removed and sensor channel has not been disabled. |
| Combustible gas display | Instrument shall be capable of displaying combustible gas reading as % Lower Explosive Limit [LEL] or 0-5% CH4 by volume. |
| Pressure compensation | Instrument oxygen sensor shall have built-in pressure compensation. |
| Sensor life monitoring | Instrument shall be able to alert the user when a particular sensor is nearing its end of life, following an instrument calibration. |
| Sensor types | Instrument shall be available with the following gas sensing options:<br>Gas type — Range — Resolution<br>combustible — 0-100% LEL — 1% LEL<br>oxygen — 0-30% Vol — 0.1% Vol<br>carbon monoxide — 0-1999 ppm — 1 ppm<br>hydrogen sulfide — 0-200 ppm — 1 ppm |

| Basic Operational Features | |
|---|---|
| Instrument buttons | Buttons on instrument must be clearly marked and intuitive. |
| Inadvertent shutoff | Instrument shall be designed to protect against accidental shutoff. |
| Zero adjustments | Instrument shall provide Fresh Air Setup [FAS] function at user’s discretion. |
| Zero adjustment safety lockout | FAS function will not allow unit to zero out hazardous readings. |
| Confidence signals | Instrument shall provide periodic audible and visual signals indicating instrument operation. User shall have option of disabling audible and visual signals if desired. A green “Safe LED” will periodically flash when all conditions are safe. |
| Time/date | Instrument must be able to display time and date. User must be able to reset time and date without tools. |
| Last calibration date | Instrument must be able to display the last successful calibration date. |
| Instrument power-on | Power-on instrument button must be clearly marked. |

| Sensor Characteristics and Performance | |
|---|---|
| Sensor life | Sensors shall have an expected life of four years. |
| End of life sensor indicator | Instrument shall notify user when sensor is close to and at its end of life, following a calibration. |
| Typical t(90) response times | Combustible sensor <10 seconds (Methane)<br>< 15 seconds (Pentane)<br>Oxygen sensor < 10 seconds<br>CO sensor < 15 seconds<br>H2S sensor < 15 seconds |
| All sensors | All sensors should have built-in control circuitry, including drive circuits, memory, microprocessor, and analog to digital converter to all for sensor level control and compensation. |
| Oxygen Sensor | Oxygen sensor shall be “lead-free” and use a non-consumable chemical reaction. |
| Combustible Sensor | Combustible sensor must have at least the following poison resistance:<br>3000 ppm*hours to H2S<br>90 ppm*hours to silicon |
| CO / H2S Sensor | CO / H2S sensor will be designed with an extremely robust carbon filter for the CO channel to block interference. The sensor shall be designed so that this is virtually no cross-channel interference. |

| Advanced Display and Software Options | |
|---|---|
| Industrial hygiene displays | Instrument shall have the capability of displaying PEAK, STEL, and TWA at user’s discretion. User shall have ability to enable/disable STEL and TWA functions. |
| Instrument settings | All settable instrument parameters [alarm set points, expected cal gas values, etc.] shall be protected by a user-selectable password. |
| Reset of functions | User shall be provided with capability of resetting PEAK, STEL and TWA readings in the field. |
| Measurement units | Unit shall be capable of displaying both type of gas sensors installed, and measurement units for each gas. |

| Instrument Alarms | |
|---|---|
| MotionAlert™ feature | Instrument shall offer a MotionAlert feature. When activated, instrument shall go into latch alarm when no instrument movement is detected for 30 seconds. |
| InstantAlert™ feature | Instrument shall have an InstantAlert feature to allow users to manually activate all alarms if the situation requires. |
| Visual alarms | Visual alarms shall consist of bright, flashing LEDs on top and bottom of instrument and positive indication on unit’s display for alarm type identification. |
| Audible alarm | Audible alarm shall be rated at >95 dB @ 1ft. |
| Vibrating alarm | Unit shall be offered with standard vibrating alarm. |
| LEL latching alarm | Combustible channel shall have non-resettable latching alarm when combustible gas level exceeds 100% LEL or 5.00% CH4. |
| Oxygen alarms | Oxygen channel shall have alarm set points for both oxygen deficiency and oxygen enrichment. |
| Alarm set points | Alarm set points must be user-settable. |
| STEL and TWA alarm | Instrument shall provide audible, visual, and vibrating alarms if STEL or TWA levels are exceeded. User shall be able to select alarm set points for STEL and TWA. |
| Battery alarms | The monitor will provide user with 10-minutes warning of battery power loss in all environmental conditions. Power consumption alarms shall activate audible, visual, and vibrating alarms. |

| Instrument Power | |
|---|---|
| Run time | Instrument run time shall be 24 hours continuous running. |
| Power supply | Instrument shall be equipped with a rechargeable battery. |
| Battery life indication | Monitor shall provide icon depicting estimated remaining battery operation time. Battery icon must always be visible when instrument is powered on. |
| Charging cradle | Optional charging cradle shall be offered. |
| Charger Input voltages | Chargers shall be available for 110VAC/220VAC and 12-24VDC. |
| Charging status | Instrument or charging cradle shall provide visual indication of battery charging status. |

| Calibration | |
|---|---|
| Calibration tools | Unit shall require no special tools for calibration other than calibration cap, cylinder, regulator, and tubing to supply gas to instrument. |
| Pushbutton calibration | Calibration shall be easily performed using instrument's push buttons. Internal instrument access or tools shall not be necessary for calibration. |
| Calibration cylinder mix | Calibration gas shall be offered in a standard 4-gas configuration [combustible, O2, CO, and H2S] cylinder. Instrument shall be calibrated from one cylinder. |
| Calibration time | Span calibration shall not exceed 60 seconds. |
| Automatic calibration | Instrument shall be compatible with optional automated test and with calibration system able to store data. External system shall automatically recognize and calibrate instrument and retain all calibration records. |
| Bump test station | Economical bump test station shall be offered to verify field performance. Test station shall be capable of checking performance of standard 4-gas instrument [combustible, O2, CO, and H2S] and store records. |

| Sampling Systems | |
|---|---|
| Sampling modes | In addition to standard diffusion mode, monitor must be available with external powered pump probe option. |
| Sampling system filters | Pump must contain user-replaceable filters to prevent liquids and dust ingress. |
| Allowable sample line length | Instrument must be capable of sample draw from up to 50 feet away. |
| Fluid ingress protection | Sample probe designed to prevent water and debris from entering instrument shall be offered. |

| Data logging [Instrument Data Storage] | |
|---|---|
| Data logging | Instrument must be available with standard data logging. |
| Event log | Instrument shall record at least 500 events. |
| Data log capacity | Data log shall record and store data for an average of 50 hours [at one-minute intervals] without overwriting existing information in normal use. |
| Gas record content | Data log entries shall contain as a minimum date, time, and record of peak and average readings for each gas sensor [oxygen shall be recorded as maximum and minimum for the intervals]. |
| Atmospheric record | Instrument shall have provisions to record atmospheric temperature changes. |
| Record intervals | Time span between data records shall be user-selectable from 15 seconds to 15 minutes. |
| Data retention | Instrument data stored in memory shall not be lost or corrupted in event of sudden instrument power loss. |
| Activity record Content page | Instrument data log shall record and be capable of reporting significant instrument events including:<br>• Gas and battery alarms<br>• Fresh air setups, sensor re-zeroing, and calibrations<br>• Battery voltage and elapsed run time<br>• Reset of PEAK, Min, STEL, and TWA values |

| Environmental and Durability | |
|---|---|
| Drop test | Can survive an incidental drop of 20'. |
| Temperature | Normal operation: 0 to 40° C<br>Extended: -20 to 50° C<br>Short periods [15 minutes]: -40 to +60° C |
| Humidity | 15-90% RH [non condensing] continuous<br>5-95% RH [non condensing] Intermittent |

| Maintenance & Warranties | |
|---|---|
| Sensor replacement | Sensors shall be easily accessed and replaced by users if desired by the purchaser. No printed circuit boards should need to be removed to access sensors. |
| Warranty, consumables | Instrument shall have a three-year warranty on all components, including sensor and battery. |
| Extended Warranty | Optional extended warranty shall be offered for an additional 1 year (4 year total). |

| Certifications | |
|---|---|
| USA and Canada | USA / Canada ETL<br>Class I, Division 1, Groups A, B, C & D<br>Class II, Division 1, Groups E, F & G<br>Class III, Division 1<br>Ambient temperature: -40°C to +54°C; T4<br><br>Canada CSA - Pending<br>Class I, Division 1, Groups A, B, C & D<br>CAN/CSA C22.2 No. 152 Combustible Gas Detection Instruments<br>C22.2 No. 152 Performance Ambient Temperature: -20°C to +54°C; T4<br>C22.2 No. 157 Intrinsic Safety Ambient Temperature: -40°C to +54°C; T4 |
| Europe | Directive 94/9/EC (ATEX): II 1G Ex ia IIC T4 Ga, -40°C to +60°C, IP67<br>(Zone 0 with no combustible sensor installed)<br><br>II 2G Ex ia d IIC T4 Gb, -40°C to +60°C, IP67<br>(Zone 1 with combustible sensor installed)<br><br>CE 0080<br>Directive 2004/108/EEC (EMC): EN50270 Type 2, EN61000-6-3 |
| Australia / New Zealand | Australia/New Zealand Test Safe Australia<br>Ex ia s I/IIC T4, -40°C to +60°C, IP67 (Zone 0)<br><br>IECEx TestSafe Australia<br>Ex ia I/IIC T4 Ga, -40°C to +60°C, (Zone 0 with no combustible sensor installed)<br>Ex d ia IIC T4 Gb, -40°C to +60°C, (Zone 1 with combustible sensor installed) |
| Manufacturing system quality approvals | Instrument manufacturer must be certified compliant with ISO 9001 provisions. |

# ALTAIR® 4X Multigas Detector Features & Benefits


| FEATURES | BENEFITS |
|---|---|
| The Altair 4X Detector is powered by the new MSA XCell™ Sensor family | Typical cost savings of over 50% on calibration gas, replacement sensors, and maintenance. Typical decrease in downtime of over 50% while bump testing the instrument, waiting for a gas response, and waiting for the instrument to clear. Enhanced safety with industry-leading accuracy, repeatability, and response times. |
| 4-year expected sensor life and standard 3-year instrument warranty | Spend less money on replacement sensors and purchase replacement instruments less frequently. Spend less time maintaining instruments, more time using them. |
| The Altair 4X Detector provides an industry-exclusive end-of-sensor-life warning | Use this early warning feature to save money and aggravation by reducing instrument downtime and sensor inventory. |
| MotionAlert™ feature - "man-down" alarm<br>InstantAlert™ feature - manual alarm | You and your fellow workers now have additional ways to call for help and send out a warning. Ideal for confined space applications when there is no direct line of sight. |
| The Altair 4X Detector is durable - providing industry-leading water, dust, and impact resistance | You can rely on the Altair 4X Detector to perform in a tough industrial environment without worrying about breaking a "delicate" instrument. |
| The Altair 4X Detector runs for over 24 hours on a single charge | Save money; the 24-hour run time and quick charge times means you can buy fewer instruments to cover longer shifts. |

**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.

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