BEVERAGE & HOSPITALITY GAS SENSOR SOLUTIONS

THE EXPERTS IN BEVERAGE AND HOSPITALITY GAS SAFETY
Contents

Introduction 4

Ax60+ Multi-gas CO₂ & O₂ Safety Monitor 6

Ax60+ Example Restaurant System 8

Ax60+K CO₂ Kiosk Safety Monitor 10

Aspida O₂ and CO₂ Portable Monitor 14

O₂NE+ O₂ Depletion Monitor 16
ANALOX SENSOR TECHNOLOGY (AST)

Analox is an acknowledged authority on gas sensors and is recognised internationally for its expertise. Since 1981 we have been producing systems for detecting potentially hazardous gases such as carbon dioxide (CO2) and nitrogen (N2). Our experience has shown that a reliable gas detection and monitoring system can play a crucial role in managing air quality.

The beverage and hospitality industries use significant quantities of pressurised CO2 and N2 gases for carbonating and dispensing drinks. The infrastructure supporting these processes requires production facilities, gas delivery networks and pressurised gas storage. Each part of this system has the potential to be affected by a leak, which will either deplete oxygen (O2) or generate high CO2 levels.

ACHIEVEMENTS

In the mid-1990s Analox set the standard for carbon dioxide safety in the beverage industry with the launch of a fixed CO2 detection system, the Ax50. This was soon followed with the introduction of a portable CO2 monitor, the Aspida, designed for use by beverage-gas delivery drivers. The Ax50 and Aspida have since become established as market leaders.

In early 2015 our existing range was complemented by the Ax60, a multi-point CO2 detector and alarm which was approved by the McDonald’s Corporation’s “Restaurant Solutions Group” and is now being installed in McDonald’s restaurants worldwide. We now offer the upgraded Ax60+ version, which has added functionality and multi-gas capability. More than 100,000 of our gas monitors are used globally in the beverage and hospitality industries.

BEVERAGE AND HOSPITALITY INDUSTRY

Breweries and Vineyards

Carbon dioxide gas is created in significant quantities as a by-product of the fermentation process; breweries, vineyards and wineries all present a potential risk of exposure to high levels of CO2.

Nitrogen is used in the production of beer and wine, predominantly to prevent oxidation which can affect the taste and quality of a beverage.

Pubs, Hotels and Restaurants

Carbon dioxide is widely used in the beverage and hospitality industry as a means of carbonating and delivering drinks. Nitrogen is also becoming more common in the beverage industry and is used to dispense beer.

Food Courts and Kiosks

Carbon dioxide is stored and used in the fast food industry for the carbonation and dispensing of beverages. The pipework used to transport this gas can be vast and fitted throughout the restaurant, including public areas, this can increase the danger of a gas leak occurring.
Ax60+

The Ax60+ is a wall-mountable, multi-gas safety device for monitoring carbon dioxide and oxygen.

**WHAT?**

Based on the popular Ax60 CO2 detector, the new Ax60+ offers the additional functionality of a modular O2 sensor which provides an early warning of both oxygen depletion and oxygen enrichment. The CO2 and O2 sensors are interchangeable and can be fully integrated as part of a multi-point system. Each alarm unit includes an audible sounder and a high-intensity strobe light.

The CO2 sensor is set by default to trigger a low-level alarm at 1.5% CO2, an evacuation alarm at 3% CO2 and a time-weighted average (TWA) alarm of 0.5% CO2 measured over eight hours. The O2 sensor is set by default to trigger low-going alarms at both 19.5% and at 18% and a high-going alarm at 23%. The alarm setpoints can be changed by the user in line with their local legislation.

**WHY?**

Industry guidelines such as EH40 and OSHA advise consideration be given to the installation of oxygen monitors where inert gases such as nitrogen are used as a leak can cause an asphyxiation risk. A CO2 leak can also cause health issues to staff. The Ax60+ is an ideal solution for monitoring both.

**DID YOU KNOW?**

The alarm set points can be easily changed by the user, in-line with their specific regulations.

**FAQ**

**Q.** What is the maximum number of CO2 sensors and alarms that can be connected to the central display?

**A.** An Ax60+ central display unit can be connected to a maximum of four sensors, of either CO2 or O2, and a maximum of eight alarms.

**Q.** How low should the sensors be installed?

**A.** CO2 sensors should be installed at approximately 305-457 mm (15-18 inches) above floor level. This is because CO2 is heavier than air and will collect near ground level. O2 sensors should be installed at normal working head height.

**WHERE?**

The central display unit is wall mounted in a convenient location, often a manager or supervisor’s office. This displays readings from the CO2 sensor units that are mounted at low level (around 450mm/18 inches above the floor) in risk areas and O2 sensors positioned at normal working head height. Each sensor is connected to one or more alarm units which give audible and visible alerts to any potential danger.

**KEY FEATURES**

- User-configurable alarm setpoints and relay outputs
- Multi-point, multi-gas monitoring system
- 4-channel flexibility allowing any sensor combination
- Central display unit for positioning in a manager’s office
- TWA monitoring

**Strobe available in white, blue, red or amber depending on your location.**
The Ax60+ gives warning of an increase in CO₂ by offering three levels of alarm. The sensor is set by default to trigger a low-level alarm at 1.5% CO₂, an evacuation alarm at 3% CO₂ and a time-weighted average alarm of 0.5% CO₂ measured over eight hours.

Example of how the Ax60+ CO₂ system would be set up across a restaurant.

Alarm Unit
To be located at a high level for everyone to see the flashing strobe.

Sensor Unit
To be located at a low level in risk areas where CO₂ can be detected.

Central Display
Located in an area such as a main office to be monitored.

This example shows 1 Central Display, 3 Sensors and 3 Alarms.
DID YOU KNOW?

The Ax60K was designed specifically with fast food kiosks in mind.

Ax60+K

Carbon dioxide (CO2) safety monitor and alarm for fast food kiosks. The Ax60+K is a smaller version of the popular Ax60+ built specifically for kiosks and smaller restaurants in food courts.

WHAT?
The Ax60+K is a CO2 monitor and alarm specifically designed by Analox to alert fast food restaurant employees to a build-up of CO2 using a state-of-the-art infrared sensor. The alarm provides both audible and visual alerts in the case of increased levels of CO2. Extra alarms can be added as needed and the unit does not need periodic calibration.

WHY?
CO2 is stored and used in the fast food industry for the carbonation and dispensing of beverages. CO2 is a toxic gas and can cause serious health risks to employees if it leaks into the building.

WHERE?
The Ax60+K sensor needs to be installed around 450 mm/18 inches above the floor - this is because CO2 is heavier than air and will collect at low levels. The alarm should be located above the sensor at about head height (between 1800 mm and 1950 mm) or at the entrance to the kiosk.

FAQ
Q. What is the maximum number of CO2 alarms that can be connected to the Ax60+K?
A. Up to a maximum of four CO2 alarms can be connected.

Q. How low should the sensors be installed?
A. CO2 sensors should be installed at approximately 305-457 mm (15-18 inches) above floor level. This is because CO2 is heavier than air and will collect near ground level.

KEY FEATURES
- Low maintenance
- Quick Connect System
- Pre-wired, ready to go
- Can support up to 4 alarm units
- Push button for unit testing

Strobe available in white, blue, red or amber depending on your location.

One CO2 Alarm should be placed at working head height above the sensor and an additional CO2 Alarm can be placed at the entrance as an early warning.
The Analox team understand how their roles impact on safety critical products. We have a dedicated team ensuring 1000's of people's lives are safe and who have assisted Analox in winning various awards.

...because safety is at the heart of everything we do

Our Ax60 modular CO2 monitor and Ax60K kiosk version are globally approved by the McDonald’s Corporation's ‘Restaurant Solutions Group’ and are installed in restaurants across the world.

...because we’re trusted by global brands
Aspida
A portable O₂, CO₂ or dual CO₂/O₂ monitor, the Aspida is an ideal solution to protect staff from the dangers of a leak of gas. It safeguards staff in the beverage and hospitality industry from nitrogen leaks and CO₂ leaks.

WHAT?
The Aspida is a robust, high specification personal O₂/CO₂ or dual CO₂ and O₂ monitor which can be worn on a belt or even wall mounted as a backup to a primary O₂ or CO₂ safety system. Offering audio/visual alarms, data logging and a man-down alarm for lone workers, it is an ideal solution to protect staff from the dangers of a leak of nitrogen or carbon dioxide.

WHY?
Industry guidelines such as EH40 and OSHA advise consideration to be given to the installation of oxygen monitors where inert gases such as nitrogen are used, as a leak can cause an asphyxiation risk. They also mandate that employees and members of the public are not exposed to potentially dangerous levels of CO₂ as it is a highly toxic gas in relatively small quantities. The Aspida is an affordable, easy to operate O₂ and CO₂ monitor and is ideal for ensuring safety in areas where the gas is piped or stored, such as in a cellar, brewery or fast food restaurant.

WHERE?
The Aspida is usually worn on the belt of the user but can also be wall mounted as a backup to a primary fixed gas detection system. It is most commonly used globally by beverage gas delivery drivers and technicians.

There is a multi-user function on the Aspida if you work back-to-back shifts with a colleague to cut down on the number of units you need.

FAQ’s
Q. Where can I download the Aspida software from?
A. You can easily download the software from our website www.analoxsensortechnology.com on the Aspida webpage.

Q. How long can the Aspida continuously run for?
A. The instrument operates using rechargeable battery technology, allowing it to run for more than 12 hours continuously between charges. It can also operate using standard AA-size batteries.

KEY FEATURES
Multiple variations available - either as a stand alone CO₂ or O₂ monitor or as a dual CO₂/O₂
Data logging capability
Man down alarm
Time Weighted Average (TWA) monitoring

Easy to clip onto the belt of the user.
The O2NE+ is a simple to use and maintain ambient oxygen depletion sensor and monitor which can be used in the beverage and hospitality industry to alert users to potentially fatal leaks of gases such as nitrogen.

**WHY?**
Industry guidelines such as EH40 and OSHA advise consideration be given to the installation of oxygen monitors where inert gases such as nitrogen are used, as a leak can cause an asphyxiation risk. The O2NE+ is an ideal solution.

**WHERE?**
The O2NE+ main sensor unit is situated in the area where there is a risk of a leak of nitrogen, at normal working head height. The repeater is located at the entrance to provide an early warning before entry.

Most competitor O2 monitors need calibrating every 6 months. The O2NE+ only needs calibrating every 12 months saving maintenance time and running costs.

**FAQ**
- **Q.** Is the O2NE+ affected by atmospheric pressure change?
  - **A.** No, the O2NE+ has an integral pressure sensor that allows the device to automatically compensate for local pressure changes.
- **Q.** Is the O2NE+ affected by helium?
  - **A.** No, this device is not sensitive to helium.
- **Q.** Can I fit two relays to one alarm?
  - **A.** Yes, this is possible.

**OPTIONS TO BUILD**
We offer several variations of this product so you can build your own to your specific requirements.

- Base unit • Range % • Alarms % • Power supply • Repeater option • Output options • Display • Language

**KEY FEATURES**
- Long life O2 sensor
- Minimal maintenance
- Simple calibration - the O2NE+ can be calibrated on "pure air"

**DID YOU KNOW?**
Most competitor O2 monitors need calibrating every 6 months. The O2NE+ only needs calibrating every 12 months saving maintenance time and running costs.

**ANALOX ASKS**
Is an oxygen safety monitor the same as a nitrogen safety monitor? Essentially, yes. When there is a threat of O2 levels being depleted due to a leak of nitrogen gas or liquid, then an O2 safety monitor is required. These are sometimes referred to as nitrogen safety monitors.
Analox manufacture products specifically for the beverage and hospitality industry, but also for a range of other industries including laboratories, commercial diving and breathing air.

To see what else Analox have to offer, please visit our website at: www.analoxsensortechnology.com

...because we don’t just meet standards - we set them