LABORATORY GAS SENSOR SOLUTIONS

ANALOX
Sensor Technology

YOUR LAB,
YOUR SAFETY,
OUR PRIORITY

analoxsensortechnology.com

Contents

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ANALOX SENSOR TECHNOLOGY (AST)

Analox is an acknowledged authority on gas detection sensors and are recognised internationally for our gas sensor technology expertise. Since 1981 we have been producing systems for detecting potentially hazardous gases such as carbon dioxide (CO_2) and nitrogen (N_2). Our experience has shown that a reliable gas detection and monitoring system plays a crucial role in managing air quality for a safe environment.

Carbon dioxide (CO_2) is widely used as a laboratory gas in cryogenic applications, sample transportation and cell culture incubators.

Other gases stored in laboratories include inert gases such as argon (Ar), nitrogen (N_2) and helium (He) which are used as carrier gases, or in cryogenics. Whereas a leak of CO_2 will cause a higher concentration of this gas in the atmosphere, a leak of any of these gases can lead to oxygen (O_2) depletion.

Laboratories also store and operate with high levels of O_2; a leak of enriched O_2 could also prove to be a fire risk.

ACHIEVEMENTS

With a growing need and interest from the laboratory market, Analox have designed and developed a portfolio of custom gas monitoring solutions to detect a wide range of commonly used laboratory gases including: O_2, CO_2, CO, H_2S and flammable gases.

In early 2015 our existing range was complemented by the Ax60, a CO_2 detector and alarm which was shortlisted by S-Lab Awards and offers protection for people working in the proximity of elevated levels of CO_2. We now offer the upgraded Ax60+ version, which has added functionality and multi-gas capability.

In the same year we also installed several monitors across laboratories at the Centre for Process Innovation (CPI), a UK-based technology centre. These were the A50, a fixed CO_2 monitor, and the Safe-Ox+ an oxygen depletion and enrichment monitor. A total of 24 units are installed to keep personnel safe while trials and experiments are conducted in a laboratory environment.

LABORATORY INDUSTRY

LABORATORIES

A wide variety of gases are used in labs such as carbon dioxide, argon, helium, nitrogen and oxygen. These gases pose a serious risk should they leak, this risk can occur from fixed piped gas systems or individual cylinders of gases.

STAFF SAFETY

Your workforce is your most valuable asset and protecting them from risks in the lab is your number one priority. This means it is also our number one priority. Gas monitoring will help improve staff and public safety and help mitigate risk of serious incidents; it also helps you to comply with local and international legislation on exposure limits.

LABORATORY PROCESS SOLUTIONS

Whether you have a scientific, medical, research or educational laboratory, process monitoring is key to your success. Analox Sensor Technology offer a wide variety of highly accurate process sensors which can be used with our control panels or integrated with your own systems for a full OEM solution.

Ax60+

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

WHAT?

Based on the popular Ax60 CO_2 detector, the new Ax60+ offers the additional functionality of a modular O_2 sensor which provides an early warning of both oxygen depletion and oxygen enrichment. The CO_2 and O_2 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 CO_2 sensor is set by default to trigger a low-level alarm at 1.5% CO_2, an evacuation alarm at 3% CO_2 and a time-weighted average alarm of 0.5% CO_2 measured over eight hours. The O_2 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?

Users of incubators, gas chromatography machines, mass spectrometers and dry ice need to consider installing safety monitors as a small leak of pressurised CO_2 could pose a lethal threat.

Any laboratory using inert gases such as argon, nitrogen, or helium need to measure for oxygen depletion. Laboratories that store and use high levels of O_2, also need to detect for a leak of enriched O_2 as this could prove to be a fire risk.

WHERE?

The central display unit is wall mounted in a convenient location, often a manager or supervisor's office. This displays readings from the CO_2 sensor units that are mounted at low level (around 450mm/18inches above the floor) in risk areas and O_2 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.

FAQ

Q. What is the maximum number of CO_2 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 CO_2 or O_2, and a maximum of eight alarms.

Q. How low should the sensors be installed?

A. CO_2 sensors should be installed at approximately 305-457 mm (15-18 inches) above floor level. This is because CO_2 is heavier than air and will collect near ground level. O_2 sensors should be installed at normal working head height.

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

The alarm set points can be easily changed by the user.

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 prime location
- TWA monitoring

DID YOU KNOW?

O2NE+

The O2NE+ is an oxygen deficiency monitor ideal for use in laboratories that use inert gases.

WHAT?

The O2NE+ is an ambient oxygen depletion monitor comprising a wall mounted main sensor unit and a repeater. It is ranged from 0 to 25% O2 and has 2 audio/visual alarms. The sensor is long life and calibration is only required every 12 months which can be achieved using certified air.

WHY?

Any laboratory using inert gases such as argon, nitrogen or helium as carrier gases or in cryogenics should use the O2NE+ oxygen depletion monitor as part of their safety assessment to comply with local legislation.

WHERE?

The O2NE+ is installed in areas where an inert gas is being used or stored to provide a warning should the oxygen levels deteriorate to an unsafe level. The repeater is located at the entrance to the room, highlighting the danger to personnel before they enter.

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.

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”

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.

...because we're small enough

to care but big enough to cope

We are experts in lean manufacturing techniques and are equipped to manufacture one-off specials or produce runs of 1000's at our UK headquarters.

Analox are the 'go to' company when expertise is required for setting gas safety standards. We have been involved with TUV, HSE and DEFSTAN standards to name but a few.

...because we don't just meet standards

- we set them

Safe-Ox+

The Safe-Ox+ is an ambient oxygen enrichment and depletion monitor which is simple to use and maintain.

WHAT?

The Safe-Ox+ consists of a wall mounted main sensor unit and a repeater. It is ranged from 0 to 25% O_2 and has 1 low and 1 high audio/visual alarm. The sensor has a long life and calibration is only required every 12 months and can be achieved using certified air.

WHY?

Laboratories that store and operate with high levels of O_2 need to detect and monitor the levels of oxygen - should there be a leak of enriched O_2 this could prove to be a fire risk.

The Safe-Ox+ provides a high O_2 alarm ideal if you are using pure oxygen in your lab to protect you from potential risks of an O_2 enriched environment.

If there is a leak of inert gas the Safe-Ox+ can also warn of oxygen depletion.

WHERE?

The Safe-Ox+ can be wall mounted at normal working head height in the gas storage room, or where enriched O_2 is piped. The unit comes with one repeater as standard which should be located at the entrance to the room.

FAQ

Q. What is the maximum room area that will be covered by a single monitor?

A. Where large areas must be monitored, it is often advised that no single monitor should cover a volume in excess of 80m³. However, these specifications are provided as a guideline. We always recommend that a full risk assessment is conducted before purchasing our units, and that they are bought according to the suggested recommendations or specific local legislation.

Q. Is the Safe-Ox+ affected by atmospheric pressure change?

A. No, the Safe-Ox+ has an integral pressure sensor that allows the device to automatically compensate for local pressure changes.

Q. Can I integrate the Safe-Ox+ with my Building Management System (BMS)?

A. Yes, just order the 4-20mA option.

KEY FEATURES

Long life O_2 sensor

Repeater included

“Plug and play” - the Safe-Ox+ is easy to install and operate

Aspida

The Aspida is an ideal solution to protect lone laboratory staff from the dangers of a leak of carbon dioxide, enriched oxygen, or inert gas.

WHAT?

The Aspida is a robust, high specification personal monitor which can be worn on a belt or even wall mounted as a backup to a primary CO_2 or O_2 safety system. It offers audio/visual alarms, data logging and a man down alarm for individual lab workers.

The Aspida is available as a stand-alone CO_2 or O_2 monitor, or as a dual CO_2/O_2 monitor, ideal where a combination of CO_2, enriched O_2 and inert gases are used.

WHY?

Standards such as EH40 applicable in Europe mandate that employees are not exposed to potentially dangerous levels of CO_2 as it is a highly toxic gas in relatively small quantities. The Aspida is an easy to operate CO_2 monitor and is ideal for ensuring personal safety in the areas of a laboratory where gas is piped or stored.

The same standards also require that consideration is given to asphyxiant dangers where inert gases such as nitrogen, argon or helium are used - therefore a portable, personal monitor such as the Aspida O_2 may be appropriate following a risk assessment.

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.

DID YOU KNOW?

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 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.

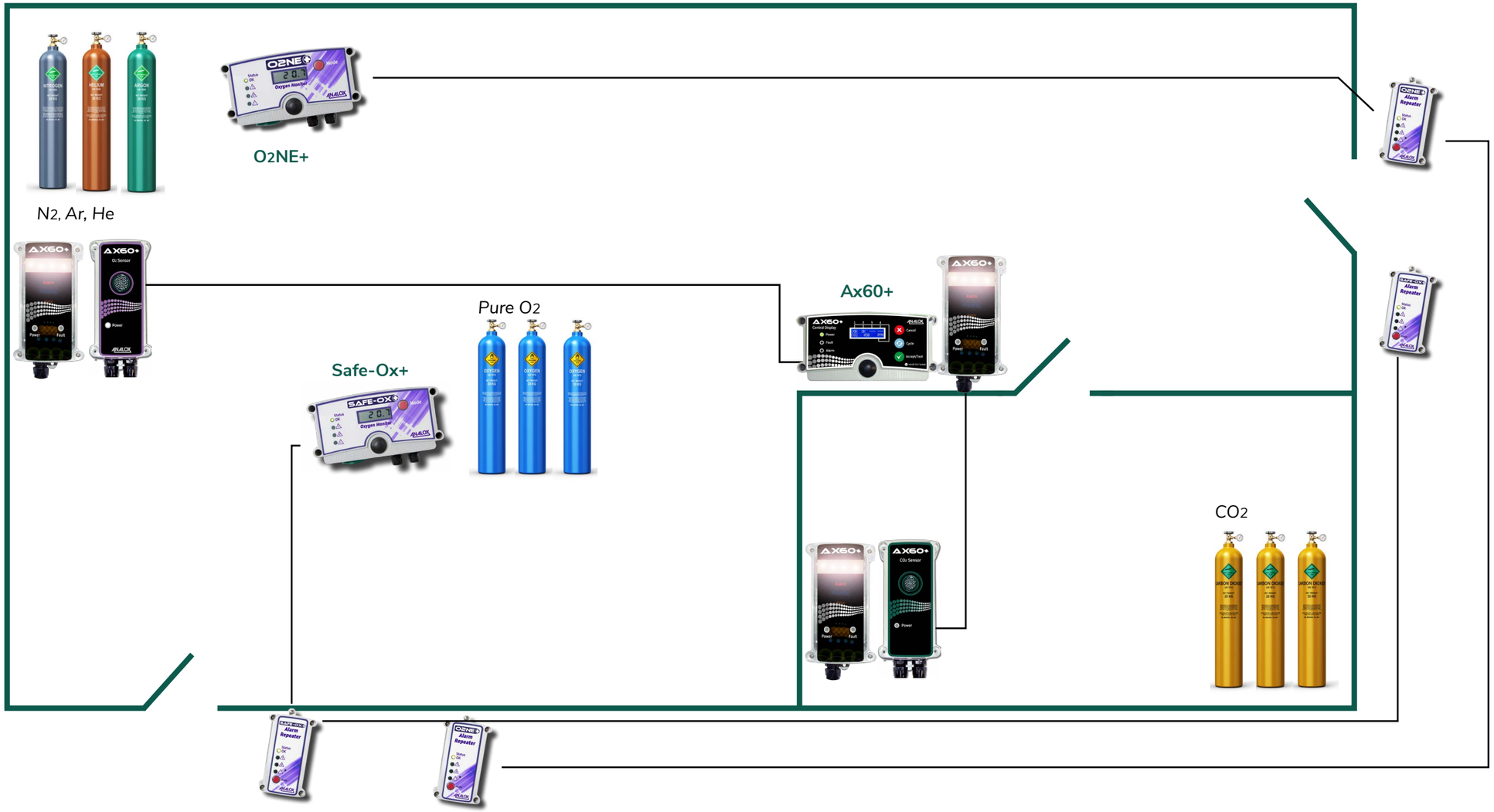
KEY FEATURES

- **Multiple variations available - either as a stand alone CO_2 or O_2 monitor or as a dual CO_2/O_2**
- **Data logging capability**
- **Man down alarm**
- **TWA monitoring**

Easy to clip onto the belt of the user.

EXAMPLE LABORATORY

Example of how Analox Laboratory products could be set up within a lab environment.



Analox manufacture products specifically for the laboratory industry, but also for a vast range of other industries including beverage and hospitality, commercial diving and breathing air.
To see what else Analox have to offer, please visit our website at: **www.analoxsensortechnology.com**

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

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.

WHY ANALOX?

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