LABORATORY
GAS SENSOR
SOLUTIONS

YOUR LAB,
YOUR SAFETY,
OUR PRIORITY
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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 (CO2) and nitrogen (N2). 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 (CO2) 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 (N2) and helium (He) which are used as carrier gases, or in cryogenics. Whereas a leak of CO2 will cause a higher concentration of this gas in the atmosphere, a leak of any of these gases can lead to oxygen (O2) depletion.

Laboratories also store and operate with high levels of O2; a leak of enriched O2 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: O2, CO2, CO, H2S and flammable gases.

In early 2015 our existing range was complemented by the Ax60, a CO2 detector and alarm which was shortlisted by S-Lab Awards and offers protection for people working in the proximity of elevated levels of CO2. 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 CO2 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

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.
ANAŁOX SENSOR TECHNOLOGY (AST)

Analox 是气体感应器领域的公认权威，其专业性在国际上被广泛认可。自 1981 年以来，我们一直致力于生产各种用于检测可能有害的气体，如二氧化碳（CO2）和氮气（N2）。我们丰富的产品线和经验表明，可靠可靠的气体检测和监控在空气质量管理方面起到了至关重要的作用。

二氧化碳（CO2）被实验室广泛地运用，尤其是在低温应用场合、样品运输和细胞培养孵化器中。实验室中存储的其他气体还包括氩气（Ar）、氮气（N2）和氦气（He），这些气体被用作载气，或者用于低温场合。而二氧化碳泄露会导致其在周围空气中浓度升高，这些气体中的任何一种发生泄露，都会导致缺氧。

在低氧应用场合，如样品运输和细胞培养孵化器中，二氧化碳（CO2）被实验室广泛地运用。实验室中存储的其他气体还包括氩气（Ar）、氮气（N2）和氦气（He），这些气体被用作载气，或者用于低温场合。而二氧化碳泄露会导致其在周围空气中浓度升高，这些气体中的任何一种发生泄露，都会导致缺氧。

实验室的存储和工作环境也具有较高的氧气含量，富氧气体的泄露也会带来火灾风险。

简介

随着实验室市场的需求和关注日益增长，Analox 设计和开发了一整套定制气体监控解决方案，用于检测实验室中广泛使用的一氧化碳、硫化氢和可燃气体。

2015 年初，我们现有的产品线中新增了 Ax60，兼具二氧化碳检测和警报功能。该产品入围 S-Lab Awards 候选名单，可为在二氧化碳浓度较高的区域附近工作的人士提供保护。

同年，我们在英国一个科技中心——工艺流程创新中心（CPI）的多个实验室安装了固定式二氧化碳监控仪 A50，以及缺氧和富氧监控仪 Safe-Ox+。总共安装了 24 台设备以保证工作人员的安全，同时确保试验和实验在实验室环境中进行。

实验室行业

实验室中会广泛使用各种气体，如二氧化碳、氮气、氢气、氧气和氦气等。这些气体一旦泄露，将会带来巨大的风险。这种风险可能在固定的气体管道系统或各个气缸中发生。

人员安全

员工是您最宝贵的资产，保护他们在实验室内中的各种风险是您的第一要务。当然，这也是我们的第一要务。气体监控可以助您提高工作环境和公众的安全性，降低发生事故的风险，还有助于遵守本地和国际法规对于有害气体暴露限值的要求。

实验室过程解决方案

无论您拥有的是科学实验室、医疗实验室、研究实验室还是教学实验室，过程监控都是取得成功的关键所在。Analox Sensor Technology 提供多种多样的高精度过程感应器，可以与我们的控制面板配套使用，也可以集成到您自有的系统中，打造出真正的 OEM 解决方案。

从 370 千米的高空
到 11,000 米的深海。

为您提供精确定制的气体检测解决方案，始于 1981

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为您提供精确定制的气体检测解决方案，始于 1981
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 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?
Users of incubators, gas chromatography machines, mass spectrometers and dry ice need to consider installing safety monitors as a small leak of pressurised CO2 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 O2 also need to detect for a leak of enriched O2 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 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.

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 a height of approximately 305 - 457 mm 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.

DID YOU KNOW?
The alarm set points can be easily changed by the user.
Ax60+ 是一种壁挂式多气体安全设备，用于监控氧气和二氧化碳的含量。

本产品的功能
新的 Ax60+ 是在广受欢迎的 Ax60 二氧化碳检测仪基础上研制而成，额外提供了模块化氧气感应器，可以尽早对缺氧和富氧发出警报。二氧化碳和氧气感应器都是可互换的，可以完全集成到多点系统中。所有警报装置都可以通过声音发出警报，还具备高强度的频闪灯。

二氧化碳感应器的默认设置是：在 1.5% 的二氧化碳浓度下触发低级别警报；在 3% 的二氧化碳浓度下触发疏散警报；在八小时测量 0.5% 的二氧化碳浓度下触发时间加权平均浓度警报。氧气感应器的默认设置是：在 19.5% 和 18% 的浓度下触发缺氧警报，在 23% 的浓度下触发富氧警报。用户可以根据当地法规的要求对报警点进行更改。

Ax60+ 多气体安全监控仪
您知道吗？
用户可以轻松更改报警点。

常见问答
问：中央显示器最多可以连接多少个二氧化碳感应器和警报装置？
答：Ax60+ 中央显示器最多可以连接四个感应器（二氧化碳或氧气感应器均可）和八个警报装置。
问：感应器应安装在多高的位置？
答：二氧化碳感应器应安装在大约地板上方 305 - 457 毫米高的位置。这是因为二氧化碳比空气重，会聚集在地面附近。氧气感应器应安装在工作时普通人头的高度。每个感应装置都连接到一个或多个警报装置，在有潜在危险时发出声光警报。

安装位置
中央显示器采用壁挂式安装，可以安装在经理或主管办公室等便利的位置。该显示器可以监控二氧化碳感应装置（安装在风险较高区域的低水平位置，约为地板上方 450 毫米高度）和和氧气感应装置（位于工作时普通人的高度）。每个感应装置都连接到一个或多个警报装置，在有潜在危险时发出声光警报。

主要特点
- 多点、多气体监控系统
- 具备 4 个通道，能够灵活满足任何感应器组合需求
- 中央显示器可安装在经理的办公室
- 时间加权平均浓度 (TWA) 监测
- 用户可以配置的报警点和中继输出
**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. 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.

**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.

**O2NE+**

The O2NE+ is an oxygen deficiency monitor ideal for use in laboratories that use inert gases.
O2NE+是一款缺氧监控仪，非常适合使用惰性气体的实验室。

为何要使用本产品
任何在低温下使用氩气、氮气或氦气等惰性气体或使用这些气体作为载气的实验室都应在其安全措施中包含O2NE+缺氧监控仪，以符合当地法规的要求。

本产品的功能
O2NE+是一款周围环境缺氧监控仪，由壁挂式主感应器单元和中继器构成，其检测的氧气浓度范围为0至25%，具有两个声音/视觉警报装置。感应器持久耐用，只需每12个月使用认证的气体校准一次。

安装位置
O2NE+应安装在使用或存放惰性气体的区域，或氧气含量降至危险水平时发出警报。中继器应位于房间的入口处，在工作人员进入房间前提醒危险情况。

常见问答
问：O2NE+是否会受气压变化影响？
答：不会，O2NE+有内置的压力感应器，可以自动补偿当地气压的变化。
问：是否可以将两个中继器连接到一个警报装置？
答：可以。

可选型号
我们为此产品提供不同规范的型号，您可以根据自己的特定需求量身打造。

基础单元：
- 浓度范围 %
- 报警点 %
- 电源
- 中继器选件
- 输出选件
- 显示器
- 语言

竞争对手的大多数氧气监控仪都需要每6个月校准一次。O2NE+只需要每12个月校准一次，可为您节省宝贵的时间。

ANALOX问答
氧气安全监控仪与氮气安全监控仪是否一样？本质上是一样的。在可能因氮气或液氮泄露导致氧气浓度降至危险水平的情况下，就需要使用氧气监控仪。这种仪器有时也被称为氮气安全监控仪。
**SAFE-OX+ O2 DEPLETION & ENRICHMENT MONITOR**

**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% O2 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 O2 need to detect and monitor the levels of oxygen - should there be a leak of enriched O2 this could prove to be a fire risk.

The Safe-Ox+ provides a high O2 alarm ideal if you are using pure oxygen in your lab to protect you from potential risks of an O2 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 O2 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 fit two relays to one alarm?

**A.** Yes, this is possible.
Safe-Ox+ 是一款周围环境缺氧和富氧监控仪，易于使用和维护。为何要使用本产品

存储和使用高浓度氧气的实验室需要检测和监控氧气的浓度，因为富氧泄露可能带来火灾风险。Safe-Ox+ 提供氧气高浓度警报，非常适合使用纯氧的实验室，以避免出现富氧的情况。在出现惰性气体泄露时，Safe-Ox+ 也可以提供缺氧警报。

常见问答

问：一个监控仪可以覆盖的房间最大面积是多少？
答：在需要监控较大房间时，一般情况下单个监控仪覆盖的房间面积建议不要超过 80 立方米。此规范仅供参考。我们始终坚持在购买我们的设备前进行完整的风险评估，并根据我们的建议和当地特定法规要求进行购买。

问：Safe-Ox+ 是否会受气压变化影响？
答：不会，Safe-Ox+ 有内置的压力感应器，可以自动补偿当地气压的变化。

问：是否可以将两个中继器连接到一个警报装置？
答：可以。

主要特点

- 持久耐用的氧气感应器
- 包含中继器
- “即插即用”
- 配备中继器

安装位置

Safe-Ox+ 可以采用壁挂式安装在气体储存室中或者富氧管道经过的区域，也安装在工作时普通人头高度的位置。该设备标配有一个中继器，可安装在房间的入口处。
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.

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.

The Aspida is available as a stand-alone CO2 or O2 monitor, or as a dual CO2/O2 monitor, ideal where a combination of CO2, enriched O2 and inert gases are used.

Standards such as EH40 applicable in Europe mandate that employees are not exposed to potentially dangerous levels of CO2 as it is a highly toxic gas in relatively small quantities. The Aspida is an easy to operate CO2 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 O2 may be appropriate following a risk assessment.

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.

Multiple variations available - either as a stand alone CO2 or O2 monitor or as a dual CO2/O2

Data logging capability

Man down alarm

TWA monitoring

Easy to clip onto the belt of the user.
Aspida

非常适合用于保护单一的实验室工作人员，使其免遭二氧化碳、富氧或惰性气体泄露的危险。

Aspida是一款易于使用的二氧化碳监控仪，在存储或通过管道运送各种气体的实验室区域中，该仪器能够很好地确保工作人员的安全。这些安全标准还要求在使用氩气、氮气或氦气等惰性气体的场合考虑窒息危险，因此，在进行风险评估后，像Aspida这样的便携式个人氧气监控仪就可能是适当的选择了。

为何要使用本产品

安装位置

Aspida可以挂在皮带上，也可以安装到墙壁上作为固定式气体检测主系统的备用监控仪。

主要特点

- 既可以作为单独的二氧化碳或氧气监控仪，也可以作为二氧化碳/氧气双监控仪。
- 数据记录功能。
- 人员倒地警报。
- 时间加权平均浓度(TWA)监测。
- 可以挂在皮带上，也可以安装到墙壁上作为固定式气体检测主系统的备用监控仪。

常见问答

问：在哪儿可以下载Aspida软件？
答：您可以从我们网站(www.analoxsensorstechonlogy.com)上的Aspida页面下载该软件。

问：Aspida可以连续工作多长时间？
答：该仪器采用可充电电池技术，充满电可连续工作12小时以上。它也可以使用标准的AA型号电池。

Aspida便携式氧气和二氧化碳监控仪

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The Analox team understand how their roles impact on safety critical products. We have a dedicated team ensuring 1000s of people’s lives are safe and who have assisted Analox in winning various awards.

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