

APPLICATION NOTE

USING THE AXEN™ AX1 WITH O₂ SENSOR

Oxygen is an essential component of air, and is necessary for all living beings. Earth's atmosphere is approximately 21% O₂, and OSHA defines a safe range of 19.5% to 23.5%.

Low oxygen levels, or oxygen depletion, puts workers at risk of asphyxiation. This is particularly dangerous in confined spaces, which are spaces large enough for someone to enter and work in but:

- Have limited entry and exit points
- Are not designed for continuous occupancy
- Contain additional hazards such as uneven floors, sloping walls or the risk of engulfment
- Have no means of ventilation

When oxygen depletes, people will begin with nausea and vomiting, eventually leading to a loss of consciousness. The lack of oxygen will quickly affect the functioning of the brain and reduce one's ability to respond.

On the other hand, too much oxygen also means danger. Excessively high (enriched) oxygen levels make combustion easier and more devastating. At concentrations of 24% or greater, fires start more easily, burn with higher temperatures and a greater heat output, and are more difficult to extinguish.

To ensure a safe working environment and detect both oxygen deficiency and enrichment, it's important to use a gas detector that is well maintained and configured with a reliable O₂ sensor.

WHERE TO USE AN OXYGEN SENSOR?

The atmosphere at many worksites is complex due to the variety of chemicals used and their potential to impact oxygen levels. For example, oil fields and shipyards are prone to oxygen deficiency, while municipal engineering, electrical utilities, and gasworks often require confined space entries where it's crucial to monitor oxygen levels.

Oxygen enrichment is more common in steel mills and metallurgy plants. High purity oxygen is used in the manufacturing process and brings a hidden risk of oxygen leakage.

The high risk of oxygen enrichment and deficiency across such a wide variety of industries makes it important to continuously monitor oxygen levels with a direct-reading portable gas monitor, like the Axen™ AX1.

DETECTING OXYGEN WITH THE AXEN™ AX1

The Axen™ AX1 Portable Single Gas Monitor is now available with an oxygen sensor, which allows users to rely on a compact, lightweight, and robust monitor that can quickly alert users to dangerous oxygen levels.

Equipped with ultra-fast sensor response times and a replaceable battery with a two-year runtime, Axen™ AX1 also ensures reliability and long-term operation. Furthermore, the Axen™ AX1 is impact, dust, and water resistant with an IP-66 / 68 dual rating. Axen™ AX1 is safe for use in hazardous locations, classified as intrinsically safe, and by cCSAus.