



# What Are Indoor Air Quality Sensors?

Air quality sensors can measure potentially dangerous gases such as carbon monoxide and dioxide, airborne substances such as particulate matter and volatile organic compounds (VOCs), as well as temperature and humidity. Sensors like these are a great way to understand the impact of the indoor environment on one's overall health. Having a sense of what your indoor air quality is can help you take action and resolve issues before they become too serious.

## What are the benefits of air quality sensors?

Air quality sensors allow users to see beyond the temperature and humidity of a home, gathering a variety of air quality metrics. They can connect to other systems, like thermostats, to help regulate temperature and control fans to mitigate air quality issues. Placing air quality sensors in a home (and taking action based on what they discover) can substantially improve their user's health, particularly given the large amount of time people now stay inside. ■

## How do air quality sensors work?

Some indoor air quality sensors measure temperature and humidity alone. Other more robust devices use a greater number of sensors to measure more things. Regardless of what is being measured, the sensors look for specific thresholds depending on the safe ranges of these gases, and will send users a warning via an app when those thresholds are exceeded. Users can then take steps to improve the quality of the air in a home. ■

## What are the challenges of air quality sensors?

The biggest challenges for these devices are coverage, cost, and communication. A typical indoor air quality sensor system comes with one sensor, which will cover only one room. To expand such a system can be expensive, with each monitor costing \$100-\$200. Lastly, these devices vary wildly in how they present the information they have gathered. Some devices only report issues via an application, while others use an interface on the device itself that doesn't clearly and quickly convey problems that need to be addressed. Scoring systems are sometimes arbitrarily created without a clearly defined positive or negative, and the inconsistent use of color can be difficult to decipher (and can frustrate color-blind users). ■



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