



Eve Room VOC sensor

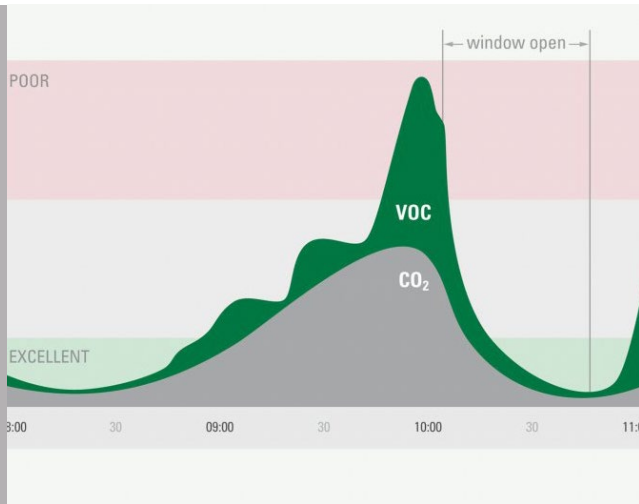
People and their daily activities cause indoor air quality to deteriorate, through the products they use and chemicals released from their bodies. The concentration of CO₂ (carbon dioxide) has long been used as an indicator for indoor air quality and can be measured by low-cost sensors. However, there is more than CO₂ that should be measured to determine whether or not the indoor air quality is suitable.

Sick building syndrome

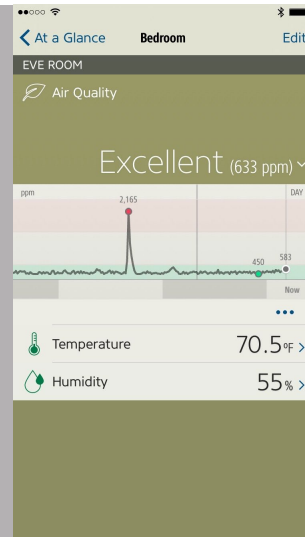
WHAT ARE VOCs? People and their pets release volatile organic compounds (VOCs) when they breathe, perspire or digest. VOCs are also released from common items like carpet, paint, furniture, printers, perfumes, cleaning products, tobacco smoke and many other substances that in large quantities can be harmful. Unlike CO₂, some VOCs can cause eye irritation, headaches, tiredness and dizziness, all which are symptoms of a condition called „sick building syndrome.“ Traditional CO₂ sensors cannot detect VOCs.

Sensing VOCs not CO₂

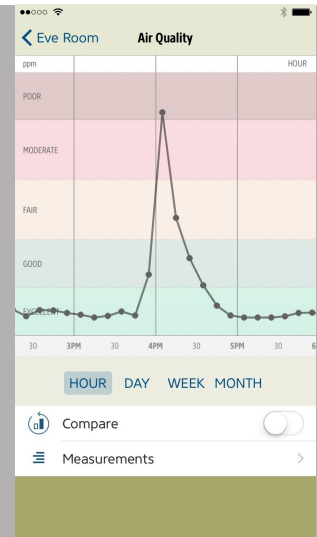
Eve Room goes beyond CO₂ by analyzing substances that directly affect user's well-being by using MEMS sensors to measure VOCs, in addition to a humidity and temperature sensors. The MEMS sensor detects and measures VOCs such as alcohols, aldehydes, ketones, organic acids, amines, as well as aliphatic and aromatic hydrocarbons. Organic compounds are not only byproducts of human metabolism, but high concentrations of VOCs can be found in everyday objects and remain hidden to CO₂ sensors.



The VOC sensor used in Eve Room detects potentially harmful substances that remain hidden to CO₂ sensors



Impact of tobacco smoke



Air quality by hour

Eve measurements

Using Eve Room, the measured gas concentration of VOCs is converted into equivalent CO₂ concentration that is easy to read. The Eve app displays current and historical measurements in ppm. Values are displayed in different colors and divided into "Excellent" (450-700 ppm), "Good" (700-1100 ppm), "Acceptable" (1100-1600 ppm), "Moderate" (1600-2100 ppm), and "Poor" (above 2100 ppm). Depending on the ventilation and number of people in the room, users should try to keep air quality at an "Excellent" or "Good" level.

Tips for improving air quality

In order to improve a room's air quality it is important to know what quality you are working with. Using the Eve Room and monitoring the valuable data provided by the Eve app is a first step. Second, having a good ventilation system is important. Lastly, if the measured value is "Good" or "Acceptable", even in an unoccupied room, consider what cleaning products are used, materials of the furniture, wall paint, tobacco smoke, or printers/copiers. Often, all you need to do is move the printer to another room, replace plastic furniture, or use different cleaning products to improve your indoor air quality but it all starts with first gaining insights that help you improve your comfort, and make your home a smarter place. Additional information on the topic from the [Center for Disease Control](#).

Carbon monoxide

Carbon monoxide is a toxic gas produced by burning. Eve Room does not measure carbon monoxide, so it cannot be used as a sensor to monitor this. Special sensors and alarms are available for this purpose.

Please see the [manufacturer's data sheet](#) for detailed specifications on the VOC sensor used in Eve Room.