



i3-TECHNOLOGIES

| WHITEPAPER

i3CAIR

Indoor air quality sensor

Monitor the indoor air quality of your workspace or classroom from anywhere and at any time.



i3CAIR
Care about your air.

I Introduction

Prior to the global pandemic, people spent almost 90% of their time indoors. With lockdowns around the world to slow the spread, people are spending more time indoors than ever before. This raises concerns for the quality of indoor air, as it is almost 100 times more polluted than outdoor air. The air we breathe indoors can effect energy, focus, and productivity, or for more sensitive groups, it can contribute to serious health conditions.

Taking control of your indoor air quality can improve the overall health and wellbeing of your workplace or classroom, making the invisible, visible. Employers or teachers can return to work with the peace of mind that the ambient conditions of their offices and classrooms are safe.



Why should you monitor your indoor air quality?

Air pollution can cause both short and long term effects on health, performance and physical and psychological wellbeing. There is also a link between the indoor air quality and the spread of viral infections. Different aspects of the indoor ambient environment, such as temperature, humidity, particulate matter and carbon dioxide, can affect the rate at which infections spread.

These aspects can also impact the performance of people in an office or classroom, causing fatigue, loss of focus, and lesser productivity and energy levels. For more sensitive groups, these aspects can worsen pre-existing conditions or cause serious health concerns.

How can you monitor indoor air quality?

i3CAIR is a simple solution that allows the monitoring, alerting and reporting on indoor air quality, and the solution fully integrates with any i3TOUCH interactive display. Through ambient monitoring and data analytics, i3CAIR improves wellbeing, health & safety in classrooms and work environments.

The basic configuration provides you with the tools and visibility you need to follow up on air quality in an individual office space, meeting room or classroom. The i3CAIR Wellbeing Index accurately measures the temperature, humidity, CO² levels, and particle matter, and alerts you when you need to take action to improve ambient conditions.

i3CAIR offers a central, cloud-based dashboard of all of the sensors within your building, or in multiple locations, with complete historical data and advanced reporting capabilities through i3RDM (Remote Display Management).

The wellbeing index

The Wellbeing Index of the i3CAIR accurately measures four different parameters: **temperature**, **humidity**, **particulate matter** and **carbon dioxide**.



CARBON DIOXIDE

Carbon dioxide (CO²) is the most straight-forward parameter of indoor air quality in association with the ventilation of a room. As the CO² levels within a room rise, carbon dioxide replaces the oxygen our body and brain need, resulting in a noticeably stuffy air quality of a room. At moderate levels, CO² can reduce concentration, focus and the overall optimal function of our brain and body. At higher levels, some could experience headaches, fatigue or dizziness, loss of concentration and attention, or even an increased heart rate and nausea in some cases. Increased CO² levels in the bloodstream can also suppress the immune system, making some more susceptible to illness.



PARTICULATE MATTER (2.5PM)

Particulate Matter (PM) is a complex mixture of microscopic particles and droplets of liquid. PM 2.5 are Fine Particulate Matter that are less than 2.5 microns (µm) in diameter. Virus droplets can attach to these small airborne particles increasing the contamination risk of influenza-like viruses. Particulate matter 2.5 microns or smaller can be inhaled deep into the lungs, and children, older adults, active people, and people with heart or lung disease (such as asthma) should use caution when PM 2.5 levels are above 12.1 µg/m³.



TEMPERATURE

Temperature plays an important role in a virus infection rate and also has an impact on performance. Viruses can thrive in temperatures below 18°C (64°F). In warmer temperatures 30°C (86°F) the infection rate or transmission of viral infections is significantly slower. The ideal indoor temperature lies between 18°C and 24°C (or between 64°F and 75°F) to keep the ambience healthy and comfortable.



HUMIDITY

Like temperature, the humidity in a room can affect the transmission rate or comfort of a room. In humidity levels below 30% and above 55%, virus particles can remain highly infectious. Staying between 30%-55% humidity can slow the infection rate and keep a room comfortable. Too low of a humidity can cause people to become more prone to cold infection or affect respiratory illness, while too high of a humidity can also trigger some allergic reactions or contribute to existing allergies.

i3CAIR and i3TOUCH Interactive Touch Displays

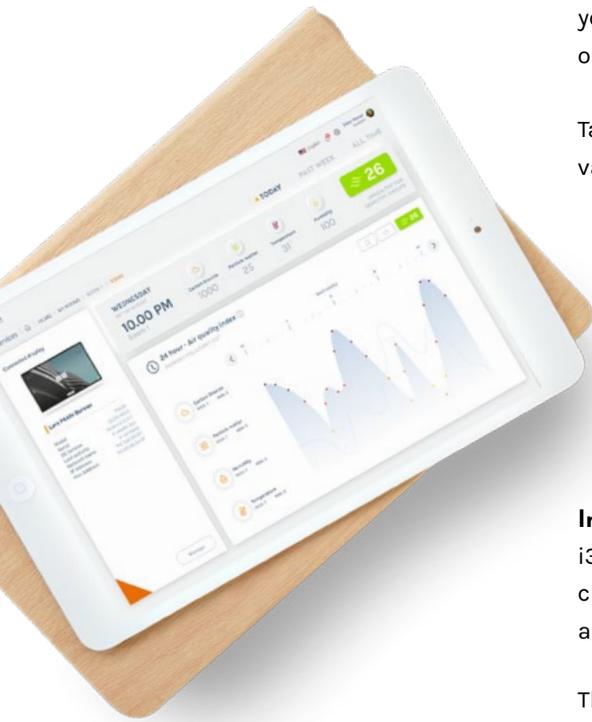
Stand alone setup

The i3CAIR is a plug 'n play extension to an i3TOUCH display. Just connect the i3CAIR sensor to the i3TOUCH display via USB and get detailed information about the air quality, receive alerts and tips on how to improve the ambient air quality.

Integrated with BIZ / EDU Studio

A widget appears in the launcher providing real-time data about the air quality in your class-/meeting room. Get insightful data about the air quality while working on the interactive touch display.

Tapping on the widget in the upper left corner will give you more details about the various measurements, both in real-time as well as a 7-day summary.



Integrated with i3RDM

i3CAIR becomes really powerful when it's linked with i3RDM. Get access to a central cloud dashboard where all sensor data, alerts and notifications can be consulted along with advanced reporting capabilities.

This is the ultimate tool for a facility manager or health & safety advisor to follow up on air quality and take informed decisions with a dedicated i3CAIR profile. Monitor multiple rooms at any time and from anywhere with i3CAIR and i3RDM.



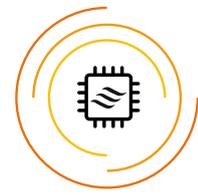
Key Features

Key Features of the i3CAIR indoor air quality sensor



Real-time data

View the conditions of your indoor air quality in real-time and a 7-day history right from your i3TOUCH display.



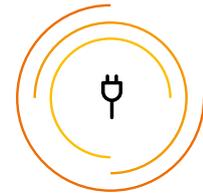
Air quality sensor

The i3CAIR Air Quality Sensor can monitor the air quality of your workspace or classroom and trigger alerts when rooms need to be ventilated.



One-cable connection

The i3CAIR solution easily connects to your i3TOUCH device with a USB-C connection which can be connected to the screen.



Plug and play

It's as simple as that. The i3TOUCH will automatically recognize when an i3CAIR is plugged in.



Wellbeing Index

The indoor air quality index, along with individual sensor data such as temperature, humidity, particle matter, and carbon dioxide levels can be consulted easily on the i3TOUCH display