

IEQ Sensor

Our New Indoor Environmental
Quality Sensor



Daikin's newest device measures and analyses your indoor environment to improve your well-being



Why Indoor Air Quality Matters

✓ Indoor Air Quality

Indoor Air Quality (IAQ) refers to the quality of the air in indoor environments, which affects building's occupants during their everyday lives. When designing HVAC systems for residential buildings, schools, offices, or light commercial buildings, many things must be considered. While it is important to meet the cooling and heating demand, we should also consider aspects such as ventilation, air filtration, and indoor air quality.

Did you know that breathing indoor air, whether it is at home, at the office, or in a hotel room, can be much more polluted than outdoor air? Remember that 90% of our life is spent indoors, and indoor air quality can be 2 to 5 times worse than outdoor air.

✓ Indoor Air Quality components

Indoor Environment Quality (IEQ) is broader than IAQ, and includes lighting, noise, and electromagnetic fields.

- 1. Ventilation**
Ensures the provision of fresh and clean air
- 2. Energy recovery**
Delivers energy savings by transferring heat and moisture between airflows
- 3. Air processing**
Ensures clean and healthy air by filtering out pollen, dust, and odours that are harmful to our health
- 4. Humidification**
Ensures the desired moisture level in the conditioned space

✓ Ventilation

Ventilation systems ensure optimal climate conditions by providing a fresh, healthy, and comfortable environment for buildings of all sizes, as well as for different applications.

In a completely closed room, air cannot easily enter or leave, causing air pollutants to accumulate which could affect the health of the people who use the room. Ventilation is essential for diluting and removing these air pollutants.

A well-maintained ventilation system with an adequate air-exchange rate have been demonstrated to be an effective solution to protect people from contaminants, including viruses.

✓ Monitoring Indoor Air Quality

Nowadays, most things that surround us can be monitored and tracked, even Indoor Air Quality (IAQ). Monitoring and tracking IAQ values can help us to understand how our surrounding environment affects our well-being, and then take action to improve the quality of the environment in which we live, whether this is our homes, the office, a restaurant, schools, or shops.

Daikin IEQ Sensor Features



The Daikin IEQ Sensor measures your well-being by tracking indoor air quality values, environmental comfort, and electromagnetic pollution. It is available with 12 sensors and 15 parameter measures, and connects through your Wi-Fi network or via NB-IoT technology.



Complete Standalone Installation

The Daikin IEQ Sensor does not have to be paired with another product, for an **extremely easy and completely standalone installation** that takes about a minute. The device can be powered up with **microUSB power supply (included)**.



Caelum Monitoring Platform

The device connects to Caelum, Daikin's monitoring platform, at daikinaq.com. This **enables you to easily monitor Indoor Air Quality levels and create regular reports based on the data detected by the sensor**. You can even use the platform to show your indoor air quality levels to your visitors.



Configuration App

The **configuration app is available as Daikin AirSense on both the App Store and Play Store**. Once installed on your mobile device and logged in, scan the QR code on the IEQ sensor and **the app will guide you through the entire configuration process**.



Connectivity

The IEQ sensor ensures **perfect integration with Daikin on Site and Daikin Cloud Service, Daikin's remote monitoring and smart maintenance platform**. It gives you perfect control over the entire heating, ventilation and air conditioning system installed in your building.



Green Building Certification

Installing the Daikin IAQ sensor can help you achieve better sustainability ratings and green building projects certified with **LEED and WELL certification** thanks to **Indoor Environmental Quality credits**.



Communication capability

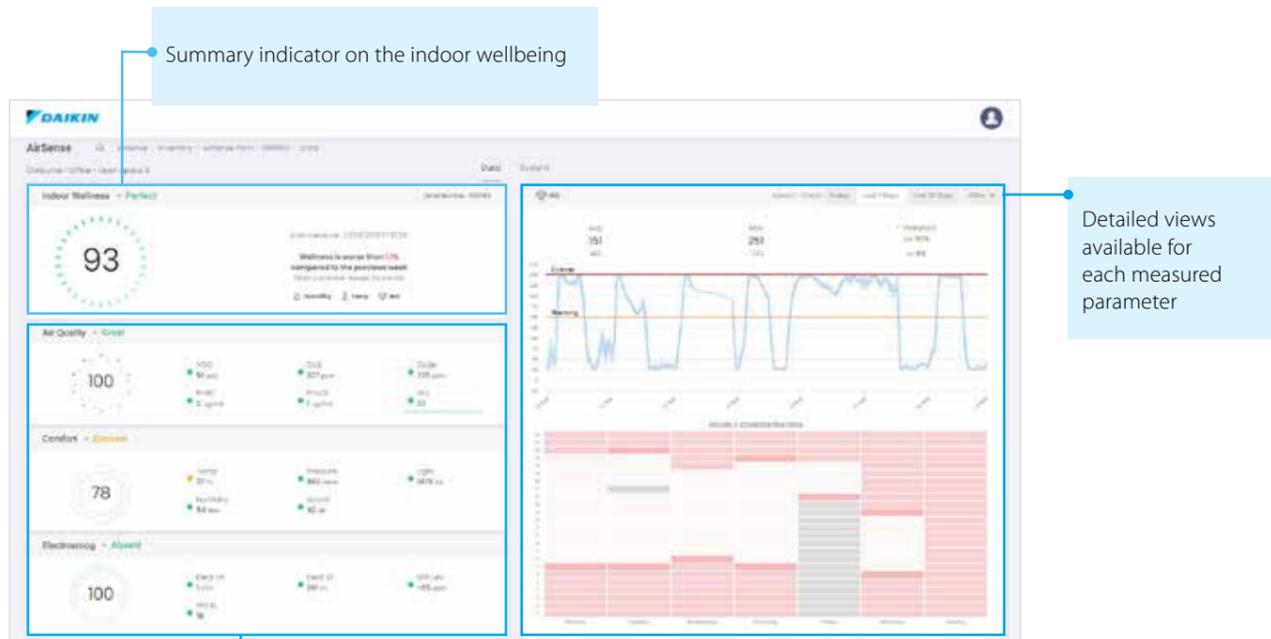
IoT NB: This technology can reach devices in areas where reception is poor or difficult to reach. Complete standalone installation. This is a perfect solution for service purposes where access to local Wi-Fi is not allowed or not available.

Wi-Fi: Easy and complete standalone installation.



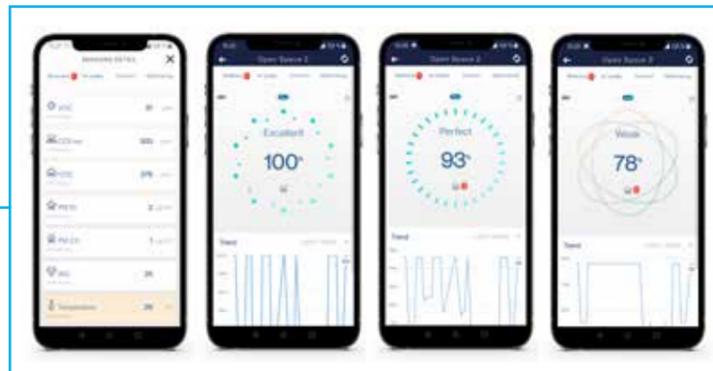


Indoor Air Quality Dashboards



> Indications on **Air Quality, Comfort** and **Electromagnetic radiation**
 > Easy to identify attention points based on red/orange/green color indicators

> Quick mobile access to the IAQ measurements
 > Simple indicators on wellbeing, air quality & comfort



Sensor characteristics

AMBIENT LIGHT

Range: 0 lux to 120000 lux
 Precision: ±10%
 Resolution: 0,1 lux

TEMPERATURE

Range: -40 °C a 85 °C
 Precision: ±1 °C (between 0 °C and 65 °C)
 Resolution: 0,1 °C

HUMIDITY

Range: 0 to 100% RH
 Precision: ±3% RH
 Resolution: 0,1% RH

AIR PRESSURE HPA

Range: 300 to 1100 mbar (hPa)
 Precision: ± 1 mbar (hPa)
 Resolution: 0,18 mbar (hPa)

SOUND PRESSURE

Range: 35 to 120 dBspl
 Frequency: from 50 Hz to 20 KHz
 Precision: ±1 dBspl
 Resolution: 0,1 dBspl

FINE DUST

Concentration Measure PM10/PM2.5:0
 $\mu\text{g}/\text{m}^3$ to 1000 $\mu\text{g}/\text{m}^3$
 Precision: (from 0 $\mu\text{g}/\text{m}^3$ to 100 $\mu\text{g}/\text{m}^3$) : ±15 $\mu\text{g}/\text{m}^3$
 Precision: (from 100 $\mu\text{g}/\text{m}^3$ to 1000 $\mu\text{g}/\text{m}^3$) : ±15%
 Resolution: 1 $\mu\text{g}/\text{m}^3$

ELECTROSMOG

LF Range: 0-400000 nT - Range: 5 Hz - 120 Hz
 Precision: ±5% - Resolution: 25nT
 HF Range: 0 - 10 V/m - Range: 50 MHz - 300 GHz
 Precision: ±10% - Resolution: 0,1 V/m
 Measurements performed on 3 axes

AIR QUALITY

Range: 0 to 500
 Precision: ±10%
 Resolution: 0,1

CO₂

Range: 0 to 5000 ppm
 Precision: ±30 ppm (between 0 and 1000 ppm)
 ±3% (over 1000 ppm)
 Resolution: 1 ppm

TVOC

Range: 0 ppb to 1187 ppb
 Resolution: 1 ppb
 Precision: ±10%

CO₂e

Range: 400 to 8192 ppm
 Precision: ±10%
 Resolution: 1 ppm

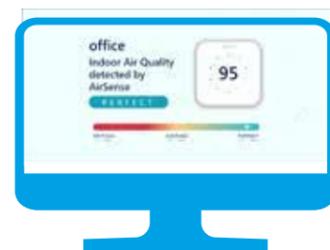
Wi-Fi NETWORKS & SIGNAL INTENSITY (2,4GHz band)

Detects Access Point n° in band 2.4Ghz and overall signal level (from 0 to -100 dBm)

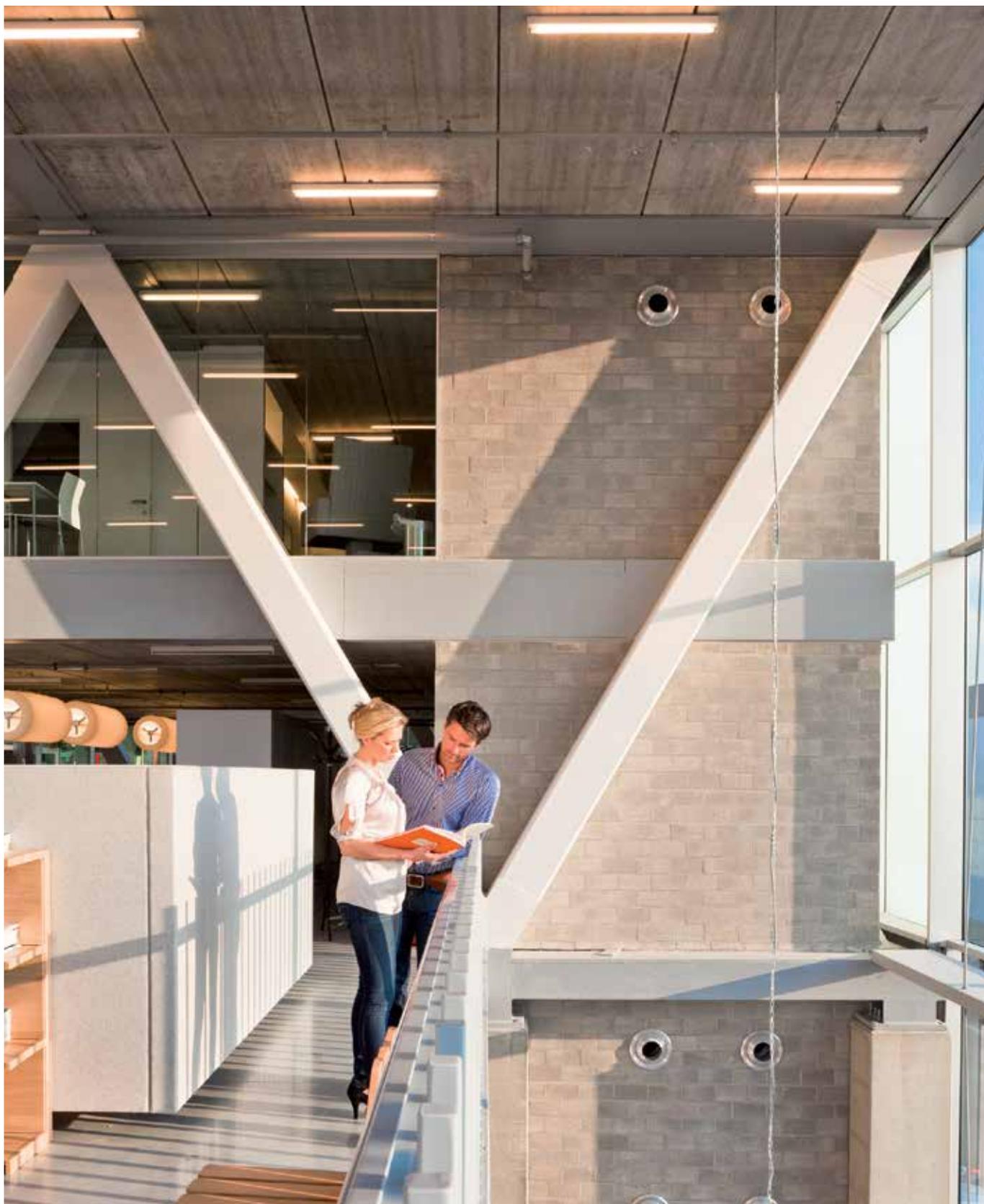


Video wall

The video wall is a great tool to have a general overview of the measurements conducted by the device. This screen can be shared with the occupants of the buildings to show in each moment the Indoor Air Quality status.



Give peace of mind to your customers by visualising the Indoor Air Quality within your premises!



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