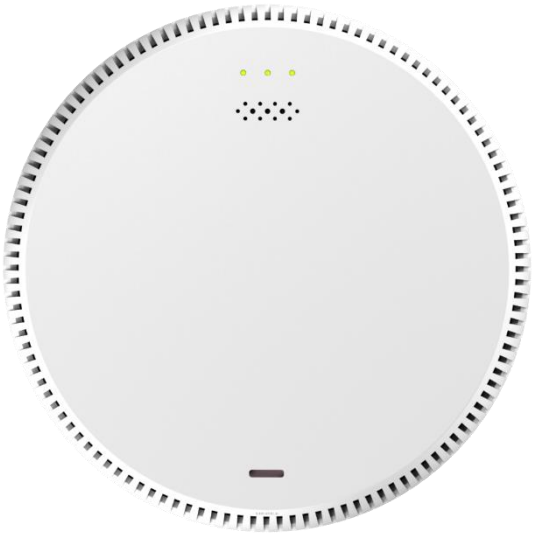


All-in-One Multi-Sensor Indoor Air Quality Detector

AI-2005BE

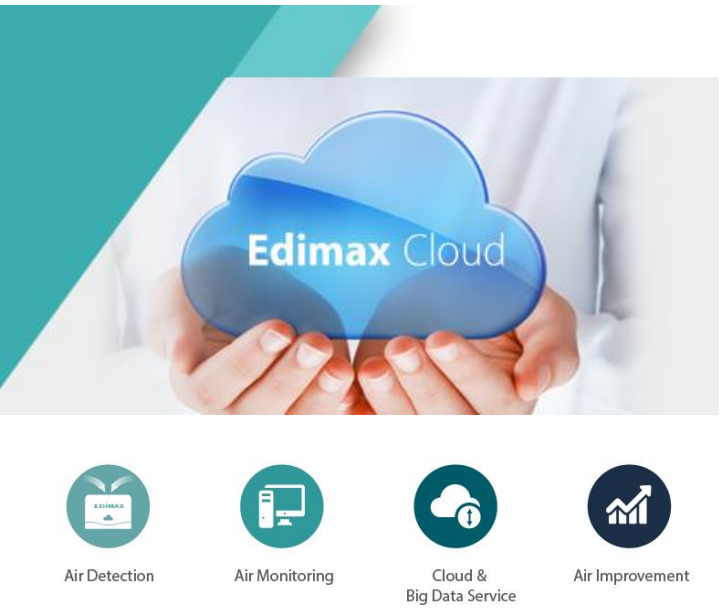
FEATURES

- **Real-time Sensor Data:** Obtain real-time Particle, CO,C02, NO2, TVOC, THC, Vape, AQI, temperature, and humidity data.
- **Historical Data Tracking:** Hourly, daily, weekly, monthly data of each sensor.
- **Push Notification Per Sensor:** Set your warning mode for a specific sensor to track the change of different air pollutants.
- **Remote Control and Improvement:** Improve indoor air quality through the mobile app and remote management of a connected air circulation/ventilation system.
- **Multiple Connectivity Options:** Supports RS485/Bluetooth/Dry contact connections in order to meet project requirement and “time to market” constraints.
- **Easy Integration:** Offers a compelling solution for SI developers by creating custom management systems via easy API integration (Optional)

OVERVIEW

The AI-2005BE 10-in-1 Multi-Sensor Indoor Air Quality Detector is your best air quality solution – with visible figures/display – that intuitively simplifies data reading to aid the improvement of indoor air quality for homes, schools, healthcare institutes, smart buildings and smart city projects. Embedded with multi-sensors for detecting pollutants such as Particle, CO,C02, NO2, TVOC, THC, Vape, the AI-2005BE lets you understand the pollution levels with intuitive app for real-time data. Its built-in cloud management solution allows air quality data transmission over the cloud. SI or building administration department can find ways or patterns to improve air quality through in-depth and historical data analysis.

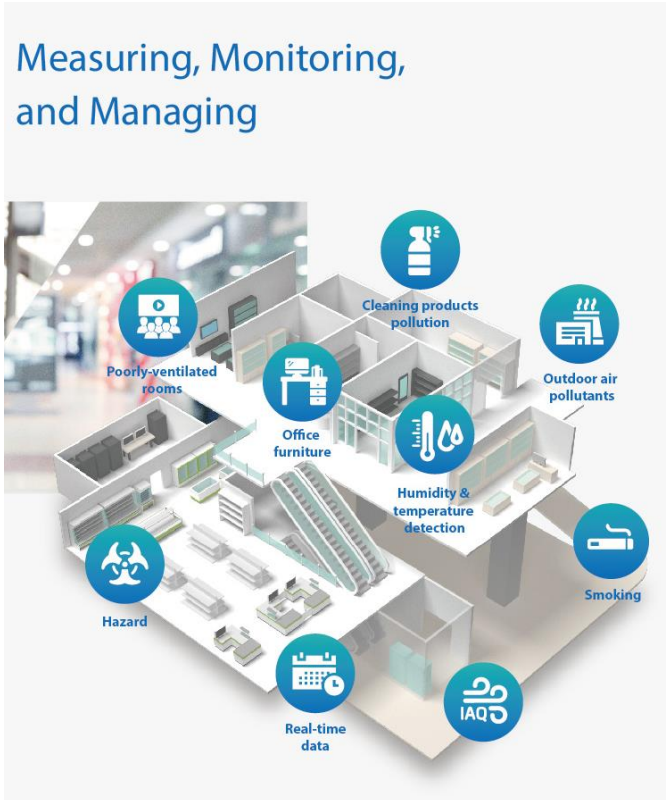
Not only operating independently from the ventilation system to provide real-time air quality monitoring, but AI-2005BE also works for air improvement in conjunction with an array of different air circulators. It supports RJ-45/RS485/Dry contact interface that can easily connect to air circulators to bring in fresh air when the pollution levels indoors are high.



Sensor-to-the-cloud | State-of-the-art IoT System

The AI-2005BE provides you an intuitive understanding of the indoor air quality where you are located, with a fully comprehensive analysis.

The AI-2005BE indoor air quality system consists of three essential components: it starts from the 10-in-1 multi-sensor to accurately detect temperature, humidity, fine dust (PM2.5 and PM10), carbon dioxide (CO_2), carbon monoxide (CO), total volatile organic compounds (TVOC), Tetrahydrocannabinol (THC), and more Vape. Secondly, with a variety of network functions such as RJ45 and RS485 technologies, the real-time data from the AI-2005BE can immediately be fed to an air improvement system or transmitted to the cloud for further analysis. Each sensor can check the historical data, such as hourly, daily, weekly, and monthly conditions.



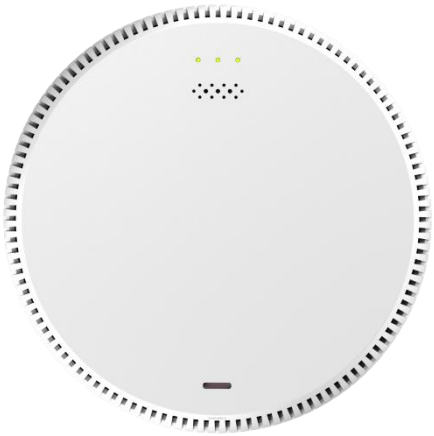
Beyond Air Quality Monitoring | Infinite Possibilities for A Better Life

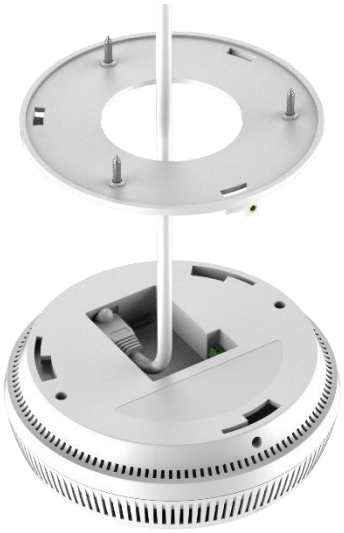
It does not matter if owners choose an “air sensor ready” ventilation system or an independent external air sensor; the chances are that owners will not be fully satisfied in achieving a clean air environment.

Edimax came up with an innovative solution (AI-2005BE) that combines the reliability of an external air sensor and versatile integration abilities found in all-in-one systems. This system provides real-time and historical data of the majority of air pollutants found in homes and offices while having the flexibility to integrate with a variety of air improvement equipment in order to quickly improve indoor air qualities. All these innovative functions also make the AI-2005BE a real time and budget saver for its users.

Supporting multiple interfaces such as RS485/DI&DO contact connections, the AI-2005BE is compatible with many types of air circulation systems, such as window installations, ceiling-mount or through-the-wall air circulators, in order to fill rooms with sufficient fresh air.

Furthermore, users can preset the air quality level through the AI-2005BE in order for the air circulator to run automatically, bringing in fresh air when needed, keeping the air environment optimal at all times.





Particulate
Airborne particles affect our respiratory system every day. PM2.5 (particles less than 2.5 micrometers in diameter) fine particles can penetrate deep into our lungs and cause irreversible damages.

CO_2
CO_2 (Carbon Dioxide) is an often-overlooked killer. The embedded CO_2 sensor lets the AI-2005BE accurately monitor the concentration of CO_2, which is odorless, tasteless and colorless. Knowing CO_2 concentration helps people respond to indoor air circulation problems and thus leading to a better air quality environment.

CO
Carbon monoxide is colorless, odorless and tasteless. It is considered one of the most common types of fatal air poisoning around the world. The AI-2005BE plays an important role in detecting and notifying owners about such dangers so they can get to safety.

TVOC
TVOC (Total Volatile Organic Compound) or VOCs refer to thousands of organic chemicals. They come from household paint, furnishing, cleaning supplies and many other building materials.

NO_2
NO_2 (Nitrogen Dioxide) ,the reason for its formation is the oxidation of nitrogen in the air or nitrogen compounds in the fuel during the combustion process

THC
THC (Tetrahydrocannabinol) One of the cannabinoids, the main psychoactive substance in cannabis .

Vape
An electronic cigarette (e-cigarette) is a device that simulates tobacco smoking.It consists of an atomizer, a power source such as a battery, and a container such as a cartridge or tank. Instead of smoke, the user inhales vapor.

Temperature and Humidity
The sensors can monitor and display real-time environmental temperature and humidity data. Moreover, they also provide recent changes and historical information. Track your indoor air quality and create the most comfortable living environment possible.

SPECIFICATIONS

SENSITIVITY	
$PM_{2.5}$ Sensor	0 - 1000 μg/m³ ,min. 0.1μm , >100 μg/m³ , ± 15 % <100 μg/m³ , ± 15 μg/m³
PM_{10} Sensor	0 - 1000 μg/m³ ,min. 0.1μm
NO2(TVOC)	0 - 500 ppb ± 15% *1
CO_2	0-5,000 ppm, ± 40 ppm or +/-3% of reading
CO	0-1500 ppm, ± 20ppm or +/-15% of reading *2
Humidity Sensor	0 - 100%RH, ± 2% RH
Temperature Sensor	0 - 80°C ± 1 °C
Air Quality Index	0- 500
Vape Index	0 -500
THC Index	0 -500
APP FUNCTION	
Mobile App	Gosmart App*
Cloud Dashboard	Acelink Go*
INTERFACE	
Ethernet	RJ-45(10,100 Base-T)
Audio	MEMS Microphone x2, 2-way audio via App
Relay Output	2, Normal Open or Closed, 48VDC at 1amp
Speaker	Alarm Condition, Pre-recorded File and 2-way audio via App
OTHERS	
Operating Temperature	0˚C - 50˚C (32˚F - 122˚F)
Dimensions & Weight	151mm(Ø) x 52mm(H) with Bracket

① TVOC can reflect the actual concentration level, but the accuracy is for reference only. The consistency of TVOC readings has the following limitations: The devices with SGP40/SGP41 should be turned on at the same places for at least 1.5 hours. That could improve the consistency. If the devices are not turned on at the same places and same time, you need to wait for at least 24 hours to improved the consistency.

② The accuracy is are -15%-15% of reading, or -10-10PPM at low concentration environment.

③ Particle sensor has Auto cleaning function. The default cleaning interval is set to 168 hours. When executing this function, the fan speed will be turned to maximum for 10 sec.

DIMENSION