EDIMAX
NETWORKING PEOPLE TOGETHER

TAIWAN EXCELLENCE 2020

EdiGreen Plus 8-in-1 Multi-Sensor Indoor Air Quality Detector

With PM2.5, PM10, CO_2, CO, TVOC, HCHO, Temperature, and Humidity Sensors

AI-2004W

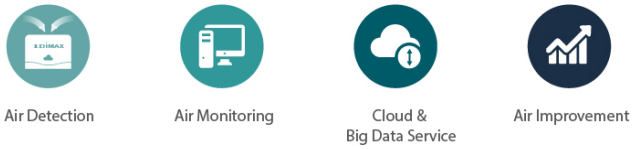
FEATURES

- **Real-time Sensor Data:** Obtain real-time PM2.5, PM10, CO_2, CO, HCHO, TVOC, 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.
- **OLED Display:** Provides indoor air quality status with real-time data.
- **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.
- **Ultra-Secure IoT Application:** The i1 Security Chipset is embedded.

OVERVIEW

The AI-2004W 8-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 PM2.5, PM10, HCHO, CO_2, CO & TVOC, the AI-2004W lets you understand the pollution levels with a quick-glance OLED display and an intuitive app for real-time data. Its built-in wireless 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-2004W also works for air improvement in conjunction with an array of different air circulators. It supports Wi-Fi/RS485/BLE/Dry contact interface that can easily connect to air circulators to bring in fresh air when the pollution levels indoors are high. Moreover, with the aforementioned array of interfaces, the AI-2004W can be remotely controlled to turn on/off the connected air circulator by an app at the owner’s behest.



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

The AI-2004W provides you an intuitive understanding of the indoor air quality where you are located, with a fully comprehensive analysis.

The AI-2004W indoor air quality system consists of three essential components: it starts from the 8-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), formaldehyde (HCHO), and more. Secondly, with a variety of network functions such as Wi-Fi, RS485 and Bluetooth technologies, the real-time data from the AI-2004W 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-2004W) 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-2004W a real time and budget saver for its users.

Supporting multiple interfaces such as RS485/Bluetooth/Dry contact connections, the AI-2004W 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-2004W in order for the air circulator to run automatically, bringing in fresh air when needed, keeping the air environment optimal at all times.

Intuitive Design | Effortless Management

The display and user interface of the AI-2004W includes an intuitive OLED display, an intuitive mobile app and a comprehensive web/app cloud management system that provides visual dashboards for greater details. The system can also be customized to meet SI or HVAC project requirements.

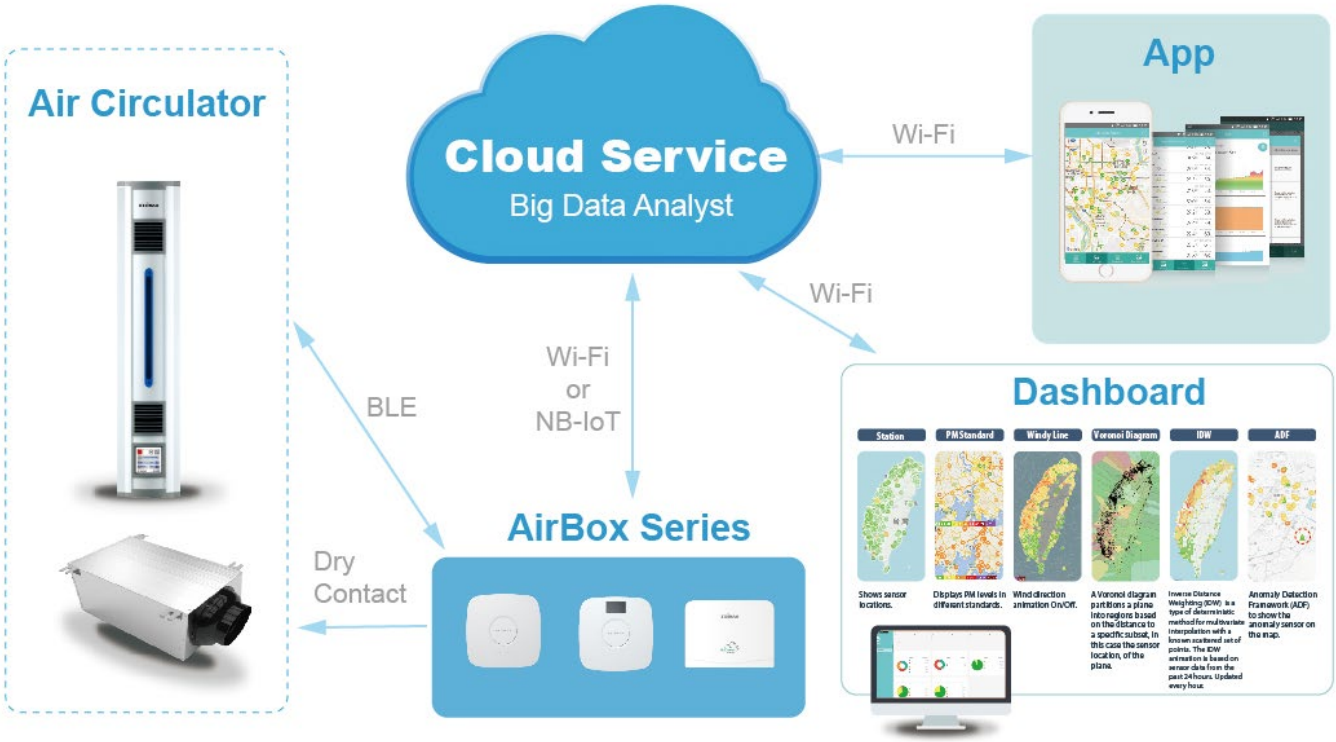
With a well placed OLED display, the AI-2004W shows live sensing data that can provide vital PM2.5/CO_2 and more air quality insights right off the AI-2004W or monitor data of multiple AI-2004W through the powerful App (including specified push notification function).

The AI-2004W is not only designed for air quality monitoring, it is also designed with a robust, easy-to-use cloud management system for SI partners and HVAC operators by incorporating Edimax's operational experiences and cloud technologies in the IoT sector. These include data visualization, user identification, device tracking/ranking, working device analysis and report, historical trend analysis, and more value-added services. The AI-2004W solution will help owners build a powerful indoor air quality improvement system, quickly and with quality service.

All the data collected from the mobile App or the web management system is synchronized through a secure cloud computing (EdiGreen Cloud) for 24/7 real-time observation and remote management.

Security Chipset Onboard | Edimax Ultra-Secure IoT Application

The exclusive Edimax i1 Security Chipset includes cryptographic key generation, management, certificate signing request, processing, and decryption in a single secure hardware unit. The Edimax AI-2004W is embedded with the hardware security chip, not only does it provide high-security protection on data transmissions but also solve security risk from malware attacks from viruses or malicious software over the IoT connection.



Elegant yet Practical Design

Built-in 8 sensor components (PM2.5, PM10, TVOC, CO, CO2, HCHO, temperature, and humidity), Wi-Fi antennas, air quality data display, and other innovative functions, the AI-2004W maintains a compact and low-key appeal in a silver color tone. Thanks to Edimax innovative ID design, the AI-2004W air quality detector fits in any modern homes, offices, or professional healthcare institutions. Its stand/wall- mount design makes installation quick and easy.

PM2.5 / PM10 Sensor

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. The EdiGeen Home PM2.5/PM10 sensor uses a laser scattering method with a uniquely-designed airflow chamber that has the ability to calculate the concentration of near microscopic particles, such as PM2.5.

CO_2 Sensor

CO_2 (Carbon Dioxide) is an often-overlooked killer. The embedded CO_2 sensor lets the AI-2004W 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 Sensor

Carbon monoxide is colorless, odorless and tasteless. It is considered one of the most common types of fatal air poisoning around the world. The Edimax AI-2004W plays an important role in detecting and notifying owners about such dangers so they can get to safety.

TVOC Sensor

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. The AI-2004W shows the level of TVOC via its color OLED and mobile app.

HCHO Sensor

Formaldehyde (HCHO) can be found in various forms and are used in many furniture and household product manufacturing processes. People who are exposed to HCHO (such as from air diffusion) can experience symptoms such as immediate discomfort and an increased chance of developing cancer. Fitted with a built-in HCHO detector, the AI-2004W can detect real-time formaldehyde concentration in order to help people determine the best course of action to reduce the harming effect.

Temperature and Humidity Sensor

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

NETWORK	
Wi-Fi	IEEE 802.11 b/g/n 2.4GHz
Security	WPA/WPA2 The i1 Security Chipset embedded.
Interface	• RS485 • BLE • Dry Contact
Antenna Type	1 x Internal Antenna
SENSITIVITY	
$PM_{2.5}$ Sensor	0 - 500 μg/m³ ,min. 0.3μm , >100 μg/m³ , ± 20 % <100 μg/m³ , ± 15 μg/m³
PM_{10} Sensor	0 - 500 μg/m³ ,min. 0.3μm
CO_2 (NDIR)	0-10,000 ppm, ± 30 ppm
CO	0-500 ppm, ± 20ppm
TVOC	0 - 1000 ppb, ± 15%
HCHO	0 - 1 mg/m^{3,} ± 10%
Humidity Sensor	0 - 100%RH, ± 5% RH
Temperature Sensor	0 - 80°C ± 1 °C
APP FUNCTION	
Mobile App	EdiGreen Plus
	• Real time Sensor Data: obtain real time $PM_{2.5}$, PM_{10}, CO_2, CO, HCHO, TVOC, temperature and humidity data. • Intuitive display of the air quality of each air pollutant. • Historical Tracking: Hourly, Daily, Weekly, Monthly data of each sensor. • Selectable Display: Turn On / Off the OLED display using App. • Alert / Push: Independent Push notification setting of each sensor . • Provides nearby outdoor air quality data information (AI-1001W V2/V3)
OTHERS	
Power Adapter	DC 12V 1A
Operating Temperature	0 - 40°C
Dimensions & Weight	135mm(W) x 135mm(H) x 35mm(D) / 210g

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