





Air Visual Pro

Indoor Air Quality Monitoring

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Author

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Background

Based on Air Quality Index in Cikarang, it indicates unhealthy for sensitive group with main pollutant is PM 2.5. It also suggested to close the window and get air purifier or also mean it's possible to indoor air quality damaged by outdoor air quality.











IQ Air In Cikarang





iqair.com





What is the Effect?

Health effects associated with indoor air pollutants include:

- Irritation of the eyes, nose, and throat.
- Headaches, dizziness, and fatigue.
- Long term: Respiratory diseases, heart disease, and cancer.

Sc: EPA GOV

HEALTH EFFECTS OF PM2.5









AirVisual Pro

Measures air pollution by combining laser technology and AI so AirVisual Pro is able to deliver immediate and accurate air quality level, as well as intuitive recommendations.



AirVisual Pro





PM 2.5



PM2.5 refers to particulate matter in the air with a diameter of 2.5 micrometers or less. Due to its size, PM2.5 is considered the most hazardous pollutant to human health as it can be absorbed into the bloodstream via the lungs.

Sources

PM10 t, pollen, mold, etc. m (micross) in dieme

Disaster Resilience and Susta

HUMAN HAIF 50-70 um

FINE BEACH SAND

PM 2.5

PM 10

Outdoor: vehicles, wood burning, industrial activities and other forms of combustion. Indoor: leaky windows and doors, stove top cooking, fireplaces, incense, cleaning products and fragrances.









CO2

What is CO2?

CO2 (carbon dioxide) is a naturally occurring, odorless gas that occurs outdoors in concentrations between 380 (rural) and 500 ppm (urban). Because humans exhale carbon dioxide (CO2), concentrations of CO2 in occupied indoor spaces are higher than concentrations outdoors. High CO2 means you need fresh air!

Sources

Outdoors: burning fossil fuels, such as gas and oil transport, industry, electricity generation.

Indoors: human respiration.











CO2 Icons



Good CO₂ ≤ 700 ppm* Ideal comfort level



Moderate 701 - 1,000 ppm *May experience odors*



High 1,001 - 1,500 ppm *General drowsiness*



Unhealthy 1,501 - 2,500 ppm Fatigue and reduced concentration



Very Unhealthy 2,501 - 5,000 ppm Headaches and adverse health effects expected



Hazardous 5,001 - 10,000 ppm *Quickened breathing, nausea*

Health effects valid for long term exposure * ppm: Parts Per Million











Air Quality Index (AQI)

Air Quality Index (AQI) is a system for reporting the severity of air quality levels in a way that is easy to understand.

The index ranges from 0 to 500, where

higher index values indicate higher

levels of air pollution.



Little to no health risk



Moderate 51 - 100Sensitive individuals may experience irritations



Unhealthy for Sensitive Groups** 101 - 150Sensitive groups should limit outdoor exertion



Unhealthy 151 - 200

Harmful for sensitive groups, reduced outdoor activity for everyone



Very Unhealthy

Everyone can be affected. Avoid heavy outdoor activity



Hazardous

Serious risks of respiratory effects. Everyone should avoid outdoor activities

* Following the US EPA Standards for Particle Pollution to calculate AOI **Sensitive groups include people with respiratory or heart disease, children and the elderly

Air Quality Index (AQI) Icons









Process

It's totally easy only with those controls, AirVisual Pro can detect both of indoor and outdoor air quality that could be accessed both offline and online (application)

AirVisual Pro controls

Power / Sleeping Mode / Back

- Switch the AirVisual Pro on/off with a 3-second press
- Enter/exit the device's sleep mode with a quick press
- · Go back in the menu settings with a quick press

Menu / OK

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- · Access your AirVisual Pro's menu and settings
- Make selections in the menu

Up / Down / Left / Right

- Navigate through your AirVisual Pro's settings
- Navigate between slideshow screens







Care and Maintenance



Put the AirVisual Pro on a flat, stable surface



Clean the AirVisual Pro using a slightly damp cloth



Connect the AirVisual Pro to an electrical outlet



Extend the sensor's lifetime by using power saving mode



Expose to direct sunlight (even indoors)

DON'T



Expose to water (e.g. rain) The AirVisual Pro is not waterproof



Expose to strong wind



Expose to extreme heat (e.g. don't place on a heater)







Other advantages of using

AirVisual Pro

Recommendations screen

The recommendations screen provides practical insights to help optimize your health and comfort.







Identify Indoor Air Quality

Indoor Air Quality Data

PM 2.5

CO2 Concentration

Temperature

Humidity





Tool Installation Documentation















Application of Tools











4-in-1 Gas Monitor

SMART SENSOR

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Why is it important?



Used as an essential part of safety equipment, gas detectors can detect oxygen deficiency, explosive atmospheres and multiple poisonous gases, thus removing threats from hazardous and potentially lethal environments.









Specification



- Portable and capable to us continuously for monitoring
- Sensor four different gas

Sensor Specification		
Gas	Range	Resolution
СО	0-999pm	1 ppm
H2S	0-500ppm	1 ppm
O2	0-30%	0.1%
LEL	0-100%	1%









Easy to Use

Mode Available:

- Depress 1x: "Peak Value"
- Depress 2x: "Time Weighted Average (TWA)", *only for toxic sensor and set for 8 hours
- Depress 3x: "Short Term Exposure Limit (STEL)", *only for toxic sensor and set for 15 mins
- Depress 2 sec for Alarm Set Point



Turn on: Press button over 2 seconds The real time monitor of four gases will work without stop.

Another function:

- Gas Calibration mode
- > easily setting with up and down button
- > and "←" confirm









Maintenance

- Use soft and clean cloth to wipe the outside surface
- Never use any solvents/cleaning solutions
- To clean the sensor opening please use the clean, soft brush

Charging

- The battery suggested to be fully charged before using the tool
- The shaded area of the battery indicator shows full once the battery is fully charged
- Should be fully charged within 6 hours

