WOOFAA Air Wifi

High-end Smart IoT Ambient Air Quality Monitoring System

130mm

130mm 130mm 45mm

Four Outstanding Features

✅ On-line and on-site calibration with third-party authoritative instruments. Thus, you need not to de-mount sensors every year for the annual adjustment as required by ISO 9001 or GB/T 19001.

✅ No need to engage manufacturer's cloud platform as a compulsory process. Data are sent directly to client's server for best corporate privacy policy.

Cyber Security

✅ Hardware is certified by RESET in compliance to WELL international green building standards.

✅ Can connect AC electric power directly, no need of power adapter, largely simplified installation process mounting devices on walls or ceiling.

NO AC Adapter ❌

WOOFAA Company Limited �發有限公司

Hong Kong Office: Flat 613, Block B, Po Lung Centre, 11 Wang Chiu Road, Kowloon Bay
China Office: Unit A048, Room 2205, No.152, Shengli Road, Pengjiang, Jiangmen, Guangdong
T: +8522649 4000 | F: +852 3007 5188 | Whatsapp: +852 5993 5280 | E: hotline@woofaa.com | W: www.woofaa.com | Wechat: brother_woofaa

Ref: WOOFAA Air Wifi WFSIEQMSD-5 P.1

Sensor Specifications (Product code: WFSIEQMSD)

General Data	
Detection Parameters(max.)	PM2.5/PM10, CO2, TVOC, Temperature & RH, HCHO

Output	RS485/RTU (Modbus) RJ45/TCP (Ethernet)　　　　　　with an extra TTL/RS485 interface WiFi @2.4 GHz 802.11b/g/n　　　with an extra TTL/RS485 interface
Operating Environment	Temperature：0~50℃　　Humidity：0~99%RH
Storage Conditions	-10℃~50/ 0~95%RH (No condensation)
Power Supply	18~24VDC; or 100~240VAC
Overall Dimension	130mm(L)×130mm(W)×45mm (H)
Material of Shell & IP Level	PC/ABS fire-proof material /　IP20
Certification Standard	CE

PM2.5/PM10 Data	
Sensor	Laser particle sensor, Light scattering method
Measuring Range	PM2.5: 0~800µg/m3　　　　PM10: 0~800µg/m3
Output Resolution	0.1µg/m³
Zero Point Stability	±3µg/m³
Accuracy	10% of reading　(25℃, 10%~60%RH)

Temperature and Humidity Data	
Sensor	High precision digital integrated temperature and humidity sensor
Measuring Range	Temperature：-20℃~60℃ / Humidity：0~99%RH
Output Resolution	Temperature：0.01℃ / Humidity：0.01%RH
Accuracy	Temperature：<±0.5℃@25℃　　　Humidity：<±3.0%RH （20%~80%RH）

CO2 Data	
Sensor	Non-Dispersive Infrared Detector (NDIR)
Measuring Range	0~5,000ppm
Output Resolution	1ppm
Accuracy	±40ppm +3% of the reading　(25℃, 10%~60%RH)

TVOC Data	
Sensor	TVOC
Measuring Range	0~3.5mg/m3
Output Resolution	0.001mg/m³
Accuracy	±0.05mg+10% of reading　(25℃, 10%~60%RH)

HCHO Data	
Sensor	Electrochemistry Formaldehyde sensor
Measuring Range	0~3.5mg/m3
Output Resolution	0.001mg/m³
Accuracy	±0.05mg+10% of reading　(25℃, 10%~60%RH)

* HCHO is an optional feature and be available on request. Our stock model WFSIEQMSD-1828D monitors only six air parameters: PM2.5, PM10, CO2, TVOC, Temperature and RH.

WOOFAA Company Limited 鏻發有限公司　　　　　　　　　　　　　　　　　　Ref: WOOFAA Air Wifi WFSIEQMSD-5 P.2
Hong Kong Office: Flat 613, Block B, Po Lung Centre, 11 Wang Chiu Road, Kowloon Bay
China Office: Unit A048, Room 2205, No.152, Shengli Road, Pengjiang, Jiangmen, Guangdong
T: +8522649 4000 | F: +852 3007 5188 | Whatsapp: +852 5993 5280 | E: hotline@woofaa.com | W: www.woofaa.com | Wechat: brother_woofaa
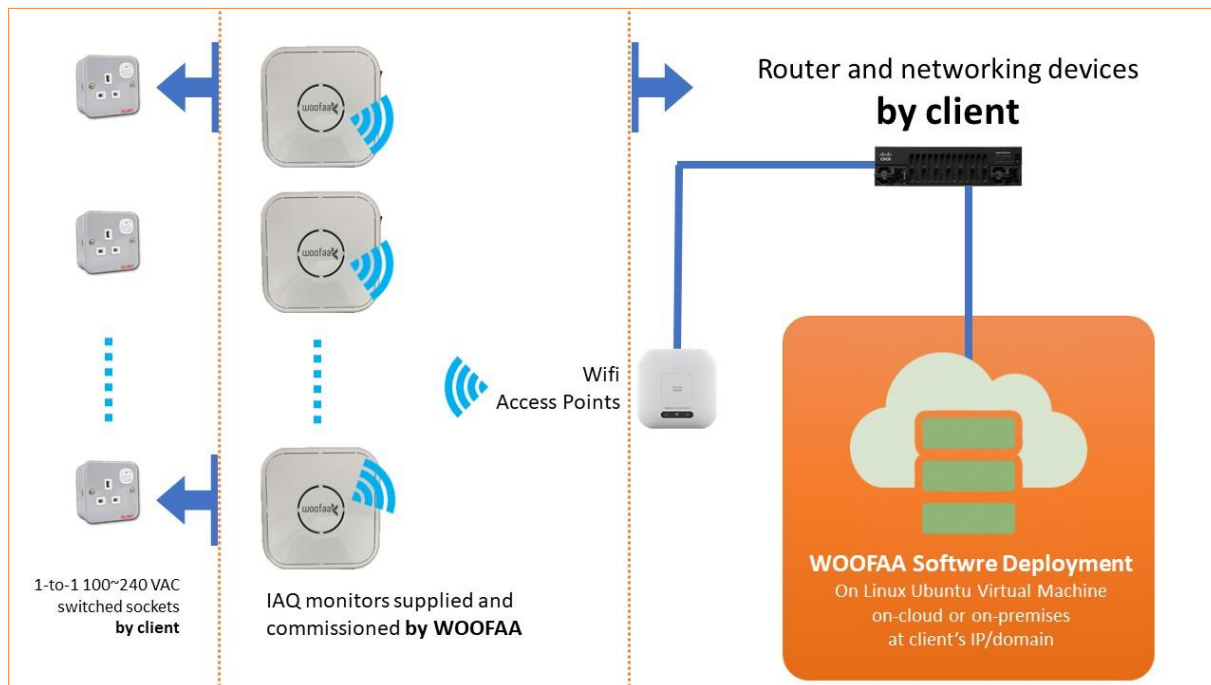
Installation Methods

Indoor air quality monitor is always preferably mounted in normal breathing height, which means 1.2~1.8 m. Ceiling-mounted monitor may give different measures from the occupancy zone, especially in high-headroom spaces over 3 m.

We can request data adjustment software functionality as a standard feature in the WOOFAA gateway. The power source of each monitor is preferably a standard AC 100 ~ 240 V AC outlet.
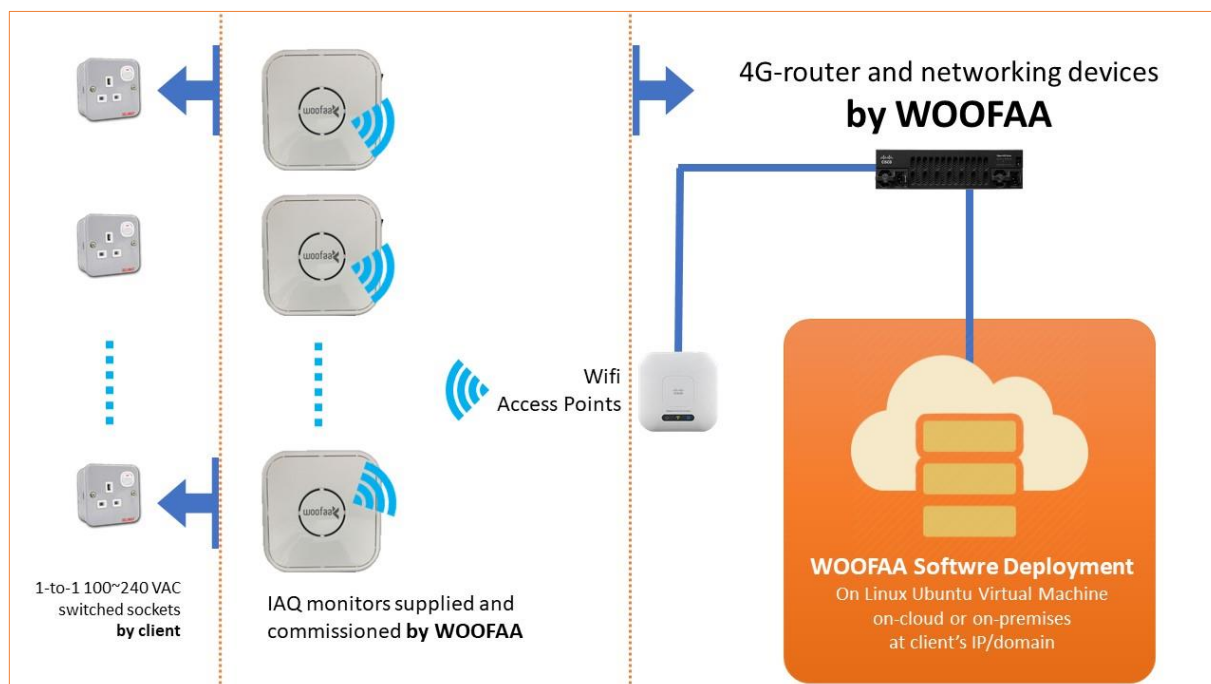
WOOFAA Company Limited 鎏發有限公司
Hong Kong Office: Flat 613, Block B, Po Lung Centre, 11 Wang Chiu Road, Kowloon Bay
China Office: Unit A048, Room 2205, No.152, Shengli Road, Pengjiang, Jiangmen, Guangdong
T: +8522649 4000 | F: +852 3007 5188 | Whatsapp: +852 5993 5280 | E: hotline@woofaa.com | W: www.woofaa.com | Wechat: brother_woofaa

Ref: WOOFAA Air Wifi WFSIEQMSD-5 P.3
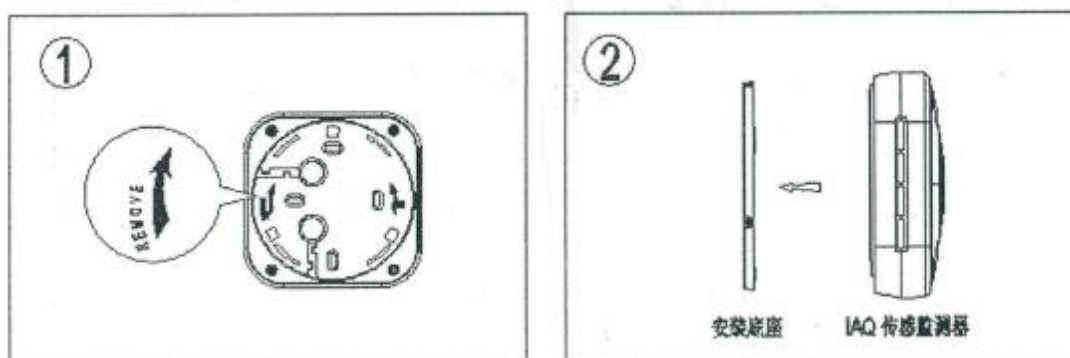
Networking Options

Option #1: Use client's existing Wifi network, making deployment fast and easy.

Router and networking devices
by client

Wifi Access Points

WOOFAA Softwre Deployment
On Linux Ubuntu Virtual Machine
on-cloud or on-premises
at client's IP/domain

1-to-1 100~240 VAC switched sockets
by client

IAQ monitors supplied and commissioned **by WOOFAA**

Option #2: Use a 4G router to build a Wifi network separated from existing ones, easily to comply with client's corporate IT policy on data security.

4G-router and networking devices
by WOOFAA

Wifi Access Points

WOOFAA Softwre Deployment
On Linux Ubuntu Virtual Machine
on-cloud or on-premises
at client's IP/domain

1-to-1 100~240 VAC switched sockets
by client

IAQ monitors supplied and commissioned **by WOOFAA**

On-premises Server Option

Our codes can be deployed on both Linux Ubuntu v16+ and Windows 10+, and are independent from the make and class of hardware.

Selection of hardware is very much based on number of monitors in a network. For a deployment of last than 10 monitors, a single-board computer has been adequate. Specifications of the computer:

- 64-bit quad-core ARM or above
- RAM: 1GB or above
- Data Storage: 32GB (enough for the OS, services, and one-year data storage) or above
- Wifi: 2.4GHz 802.11n

We shall house each single-board computer with a IP6x certified ABS plastic box with mounting details as follows. This computer box is preferably mounted on wall or inside wooden cabinet (for WIFI signal to get through). An AC power supply wall socket is required in adjacent for a DC adapter powering the computer.
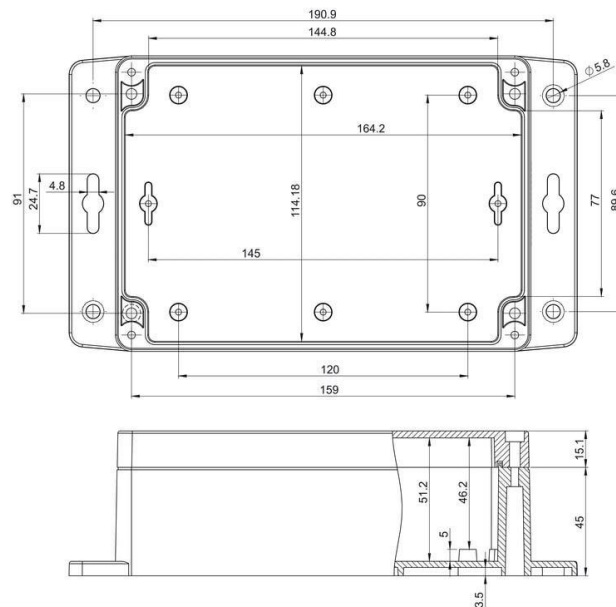
For bigger networks of fewer than 100 devices we can use dual single-board computers. For networks over a hundred devices, the Dell Edge Gateways for IoT series is recommended.

Data Integration

Our data gateway can come in form of a software on your virtual machine, or in form of a hardware server for client's plug-and-play integration.

Our software runs on Linux Ubuntu and data are stored in MySQL. Third-party system can use RESTful API or MySQL PDO methods to retrieve data from our data gateway.

Software deployment be done by WOOFAA via remote SSH root access. Software license is one-off with one-year bug-fixing and OTA free-upgrade warranty. No recurring fee is required. Source code disclosure is excluded, and modification is not allowed.

```
https://客户专用的IP地址/api...record?device=xxxxxxx

"result":
{
    "id":yyyyyyy,
    "device":"xxxxxxx",
    "pm2p5":"7.4",
    "co2":"471",
    "tvoc":"0.174",
    "humidity":"53.76",
    "temperature":"32.76",
    "pm10":"7.5",
    "pm100":"7.5",
    "date_created":"20QQ-10-04 02:38:30"
}
```
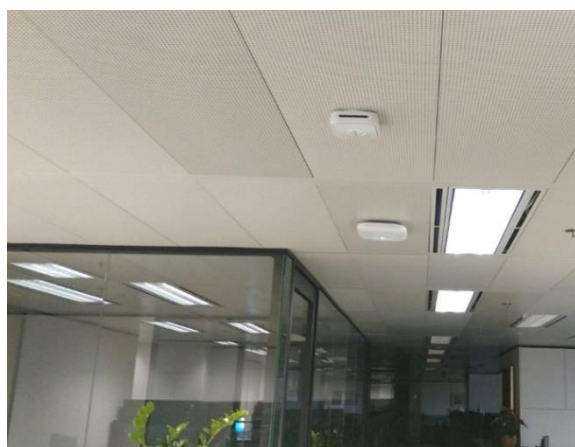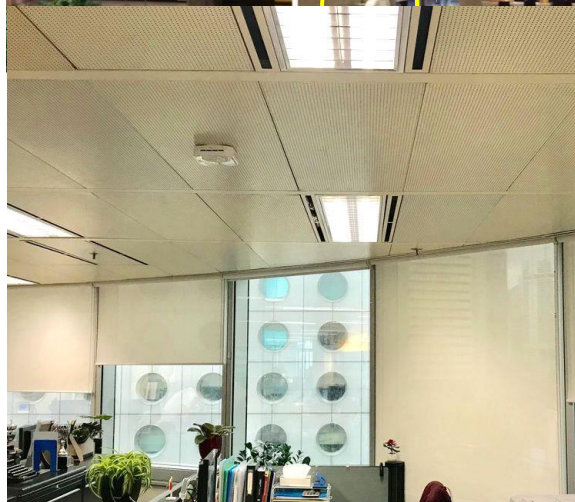
Real-time data RESTful API grab test:

https://air.woofaa.com/api/iaqrecord?device=52800163

Custom historical data RESTful API grab test:

https://air.woofaa.com/api/iaqrecord?device=52800163&start=2020-02-28T23:55:00Z&end=2020-02-29T00:05:00Z

Job References

❖ TheMart,Chicago, US

❖ B+H Architects (Shanghai and Toronto offices)

❖ JPMorgan Chase (Offices in China)

❖ Uniqlo (Shenzhen office)

❖ Nike (China Headquarters)

❖ Hongkong Land (Global Headquarters)

❖ Kerry Properties (Residential Project RESIGLOW, Hong Kong)

❖ English School Foundation (multiple campus, Hong Kong)

WOOFAA Company Limited 鏸發有限公司
Hong Kong Office: Flat 613, Block B, Po Lung Centre, 11 Wang Chiu Road, Kowloon Bay
China Office: Unit A048, Room 2205, No.152, Shengli Road, Pengjiang, Jiangmen, Guangdong
T: +8522649 4000 | F: +852 3007 5188 | Whatsapp: +852 5993 5280 | E: hotline@woofaa.com | W: www.woofaa.com | Wechat: brother_woofaa

Ref: WOOFAA Air Wifi WFSIEQMSD-5 P.7

Accredited RESET Air Performance Standard - Commercial Grade (B) Monitor

woofaa

WFSIEQMSD (Tongdy MSD-16)
INDOOR AIR QUALITY MONITOR

SENSOR SPECIFICATIONS

Particulate Matter 2.5 (PM2.5)	Sensor Type: Measuring Range: Sensor Output Resolution: Accuracy:	Laser Particle Sensor (Light Scattering) 0 - 800 µg/m3 0.1 µg/m3 ±10% (25°C, 10 - 60% RH)
Total Volatile Organic Compounds (TVOCs)	Sensor Type: Measuring Range: Sensor Output Resolution: Accuracy:	Metal Oxide Semiconductor Sensor (MOS) 0 - 3.5 mg/m3 0.001 mg/m3 ±0.05mg and 10% (@ 25°C, 10 - 60% RH)
Carbon Dioxide (CO2)	Sensor Type: Measuring Range: Sensor Output Resolution: Accuracy:	Non-Dispersive Infrared Detector (NDIR) 0 - 5000 ppm 1 ppm ±40 ppm and 3% (@ 25°C, 10 - 60% RH)
Temperature	Sensor Type: Measuring Range: Sensor Output Resolution: Accuracy:	High Precision Digital Integrated Temperature and Humidity Sensor -20 - 60°C 0.01°C ±0.5%°C
Relative Humidity	Sensor Type: Measuring Range: Sensor Output Resolution: Accuracy:	High Precision Digital Integrated Temperature and Humidity Sensor 0 - 99%RH 0.01%RH ±3.0%RH

BASIC INFORMATION

DIMENSIONS	WEIGHT	CONNECTIVITY & INTEGRATION
Length: 130 mm (5.12 in) Width: 130 mm (5.12 in) Height: 45 mm (1.77 in)	Unit Weight: 495 g (1.09 lbs)	- Wi-Fi Connection2.4GHz 802.11b/g/n - RJ45/TCP - RS-485/RTU

OPERATIONAL ENVIRONMENT	DATA STORAGE & LOGGING
Operating Temperature: 0 - 50°C Operating Humidity: 0 - 90%RH	Log Interval: 1 minute (adjustable) Data Push Interval: 1 minute (adjustable) Onboard Memory: N/A

POWER CONSUMPTION	BATTERY	WARRANTY & DURABILITY
Input: 18-24vDC or 100-240vAC Operating: 1.9W @ 24v 4.5W @ 230v	Capacity & Voltage: N/A Usage Time: N/A	Warranty: 1 year Expected Lifespan: 5 years

ACCESSORIES	OTHER CERTIFICATIONS
- Installation Bracket - Power Adapter	- CE

20190125

RESET — This indoor air quality monitor has met the RESET™ Air Performance Standard for Commercial Grade (B) Monitors and is accredited for use in projects pursuing RESET™ Certification.

Hardware Adaptability

WOOFAA Company Limited �有限公司
Hong Kong Office: Flat 613, Block B, Po Lung Centre, 11 Wang Chiu Road, Kowloon Bay
China Office: Unit A048, Room 2205, No.152, Shengli Road, Pengjiang, Jiangmen, Guangdong
T: +8522649 4000 | F: +852 3007 5188 | Whatsapp: +852 5993 5280 | E: hotline@woofaa.com | W: www.woofaa.com | Wechat: brother_woofaa

Ref: WOOFAA Air Wifi WFSIEQMSD-5 P.8

From Monitoring to Control

Connect to our other WIFI-based appliances to smartly act on when pollution is detected, configurable and fully automated. Two options are available:

1. Smart Air Purifier – Pelucchi from Italy

Not only you can switch the machine on/off, the fan speed is also controllable in according to pollution level, be it is PM2.5 **OR** TVOC too high

2. Smart Switch for Fans and Lamps
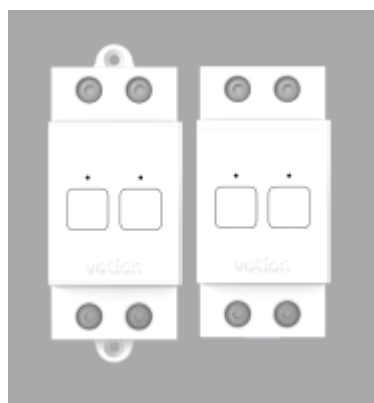
When carbon dioxide is close to the outdoor level (~400-500 ppm) that is a sign of empty room. Our Smart Switch can thus switch off lamps and fans to save your energy bill. This CO2 measuring method on occupancy is proven much more accurate than conventional occupancy sensor.

Alternatively, when the CO2 level is too high, both air-conditioner and air purifier would not help. You need our Smart Switch to turn on ventilation or circulation fan in place.

woofaa

IoT + IAQ。Profession Smart Air System。Development & Distribution

WOOFAA Company Limited 鏸發有限公司
Hong Kong Office: Flat 613, Block B, Po Lung Centre, 11 Wang Chiu Road, Kowloon Bay
China Office: Unit A048, Room 2205, No.152, Shengli Road, Pengjiang, Jiangmen, Guangdong
T: +8522649 4000 | F: +852 3007 5188 | Whatsapp: +852 5993 5280 | E: hotline@woofaa.com | W: www.woofaa.com | Wechat: brother_woofaa

Ref: WOOFAA Air Wifi WFSIEQMSD-5 P.11