

# ECgaspoint

Indoor Air Quality

## Wireless Gas Sensor Device

- Optimize management, save energy
- Helps you understand your air, breathe healthy and confident
- Measures more than 200 indoor gases
- 40 years of experience in gas sensor technology





## Indoor Air Pollution Source

### Contamination by harmful chemical substances contained in construction and decorative materials:

Various adhesives, glues, paints and varnishes used in decorative materials, furniture and construction contain large amounts of volatile harmful gases, mainly TVOC gas, including formaldehyde, benzene, toluene, xylene, etc. They are potentially carcinogenic or mutagenic and may pose a serious risk to human health.



### Pollution gas from outdoor air:

NO<sub>2</sub> nitrogen dioxide, SO<sub>2</sub> sulfur dioxide, TVOC total volatile organic compounds, NH<sub>3</sub> ammonia, CO carbon monoxide, etc., which are mainly produced by pollution through automobile emission and pollutant emissions from surrounding factories.



### Pollution gas from personally indoor activities:

Toilets, garbage and exhaled gas of the human body mainly contain hydrocarbons, aldehydes, ketones, VOC gas, SO<sub>2</sub> sulfur dioxide, NO<sub>2</sub> nitrogen dioxide, CO carbon monoxide, CO<sub>2</sub> carbon dioxide, H<sub>2</sub>S hydrogen sulfide, NH<sub>3</sub> ammonia, dimethylamine, methyl mercaptan, methyl sulfide and other hazardous gases. Most of them are metabolites in the body, the other part are pollutants that are exhaled in their original form after inhalation.



### Pollution gas from gas processing:

Laboratory experiment or production process produce toxic gases.

## Product Overview

ECgaspoint continuously monitors all indoor air pollution, with more than 200 gas types, and is able to track air quality changes in real time.

ECgaspoint has a standard MQTT protocol with WiFi and easily connects to a local WiFi network. It is suitable for various indoor air cleaning systems to evaluate the purification efficiency.





## Parameter

Air Quality (Including TVOC)

Temperature

Relative Humidity



TVOC



Temperature



Relative Humidity

## For Facility Management

Professional indoor air quality monitoring - easy to use.

Our vision is that everyone deserves clean air to live and work in.



### Optimize Environment

- Improve indoor air quality to create a high-quality comfortable environment for your users.
- Ensuring a healthy living and working environment.
- Resolve user complaints of bad air, heat or cold.



### Save Energy

- Improve indoor air quality to optimize your operational management and energy efficiency.
- Based on the need to optimize ventilation, heating and cooling, not according to a schedule to avoid energy losses.



### Optimize Management

- Ability to remotely investigate air quality issues instead of sending someone onsite.
- Visibility of air quality on the dashboard during room cleaning.



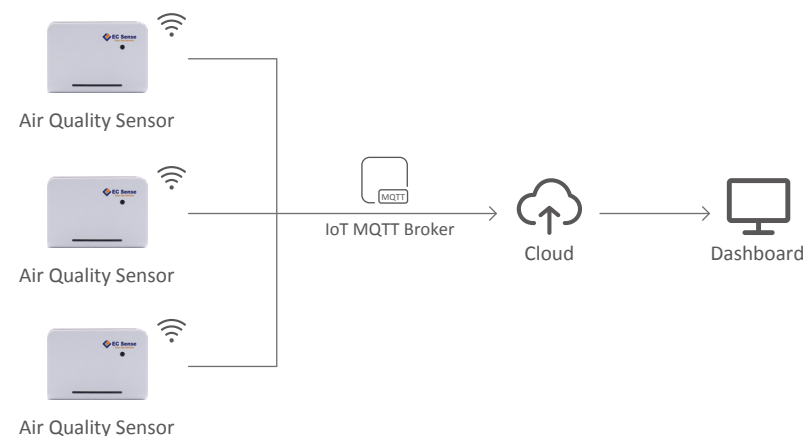
### Save Time and Money

- Reduces energy consumption, saves time and money.

## Easy Installation

ECgaspoint is suitable for any indoor space of a building and can be installed quickly.

The measurement data is transferred to the dashboard via WiFi.

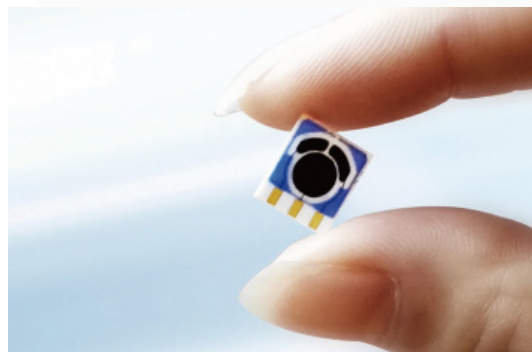






## Key Sensing Technology from EC Sense

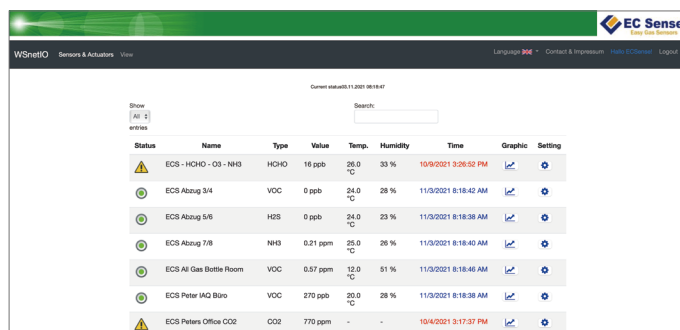
ECgaspoint uses the Solid Polymer Electrochemical Sensing Technology, which is for industrial applications. It employs a three-electrode arrangement - the working, the counter and the reference electrodes - in which concentration measurements can be performed continuously and the sensor operates at a fixed potential. The gas of interest (target gas) diffuses through a diffusion barrier, such as a capillary, into the cell to the working electrode, where an electrochemical reaction takes place. Oxidation and reduction reactions are happening simultaneously. The current flowing through the cell is direct proportional to the concentration of the target gas. A reference electrode keeps, with a potentiostat, the potential constant together.



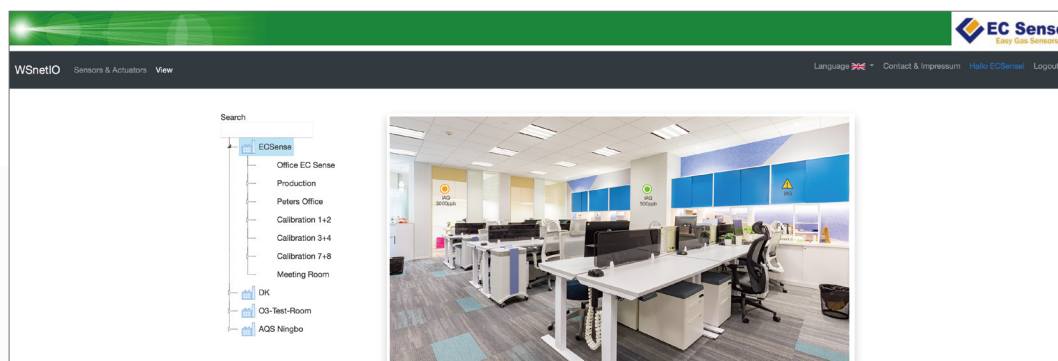
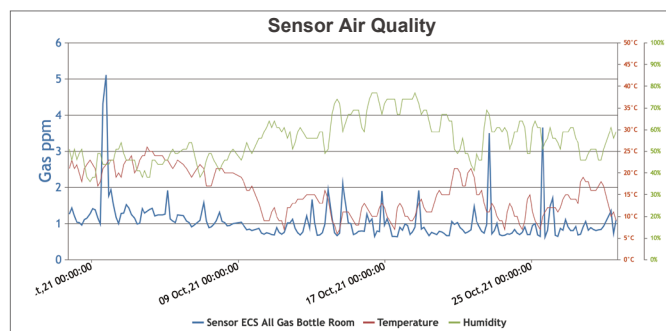
## WSnetIO Cloud Systems

### Real-time with dashboard

- Sensor names can be assigned individually, for quick location of sensors.
- 100% web-based without installation, the dashboard uses a simple web browser.
- Easy to navigate every room or location of the building.
- Instantly visualizes whether everyone breathes good air.
- Define your own alert levels, depending on your comfort level.
- Easy to add room or location pictures for clear visualization.
- View real-time air quality data and history (1 hour/day/week/month/year, all data) by concentration number and graph.
- Local data saving, browser based setup and visualization on any PC, Phone or Pid.
- Multiple choice of operating languages.



Status	Name	Type	Value	Temp.	Humidity	Time	Graphic	Setting
⚠	ECS-HCHO-C3-NH3	HCHO	16 ppb	26.0 °C	33 %	10/9/2021 9:26:52 PM		
⊕	ECS Abzug 3/4	VOC	0 ppb	24.0 °C	28 %	11/3/2021 8:18:42 AM		
⊕	ECS Abzug 5/6	H2S	0 ppb	24.0 °C	23 %	11/3/2021 8:18:38 AM		
⊕	ECS Abzug 7/8	NH3	0.21 ppm	25.0 °C	26 %	11/3/2021 8:18:40 AM		
⊕	ECS All Gas Bottle Room	VOC	0.97 ppm	12.0 °C	51 %	11/3/2021 8:18:46 AM		
⊕	ECS Peter IQ Büro	VOC	270 ppb	20.0 °C	28 %	11/3/2021 8:18:38 AM		
⚠	ECS Peters Office CO2	CO2	770 ppm	-	-	10/4/2021 3:17:37 PM		





## Typical Applications

|| ECgaspoint solution for all commercial, public and industrial buildings

- Business Center
- School
- Train Station
- Shopping Mall
- Laboratory



- Hospital



- Hotel

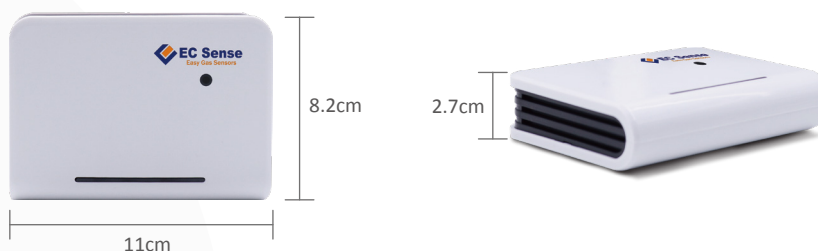


- Sport Center





## Mechanical Drawing



## Technical Specifications

### Air Quality Sensor

Measurement Range	0-10 000ppb
Resolution	1ppb
Accuracy	±5% full scale at 25°C within 35-80%RH

### Temperature & Relative Humidity Sensor

Parameter	Temperature	Humidity
Range	-40 to 85°C	0-100% RH
Resolution	0.01°C	0.01% RH
Accuracy	± 0.2°C	± 2% RH
Repeatability	0.1°C	0.1% RH
Response Time	< 5 to 30s @ t63%	8s @ t63%
Long-Term Drift	< 0.02°C/year	< 0.25% RH/year

### General Specifications

Power Supply	5V DC, 0.3 A
Dimensions	H 110 x W 82 x D 27 mm
Data Transfer & Response Time	5 sec.
Operating Temperature	0 to 50°C
Operating Humidity	15 to 95% R.H.(Non-condensing)
Operating Pressure	800 to 1200 hPa
Wireless Technology	802.11 b/g/n_2.4GHz
Warm-Up Time	< 60s
Storage Conditions	0 to 20°C
Expected Lifetime	> 5 years
Housing Material	ABS
Weight	< 100g
Installation	Hanging
Supplied Accessories	USB power adapter Micro USB to USB cord

## Order Information

05-ECgaspoint-01

### Disclaimer

The EC Sense performance data stated above is based on data obtained under test conditions using the EC Sense gas distribution system and AQS test software. In the interest of continuous product improvement, EC Sense reserves the right to change design features and specifications without notice. We are not responsible for any loss, injury or damage caused by this. EC Sense assumes no responsibility for any indirect loss, injury or damage resulting from the use of this document, the information contained therein or any omissions or errors herein. This document does not constitute an offer to sell. The data it contains are for informational purposes only and cannot be considered a guarantee. Any use of the given data must be evaluated and determined by the user to comply with federal, state and local laws and regulations. All specifications outlined are subject to change without notice.

### Warning

EC Sense sensors are designed for use in a variety of environmental conditions. However, due to the principles and characteristics of solid polymer electrochemical sensors and to ensure normal use, users must strictly follow this article during storage, assembly and operation of the module. General-purpose PCB circuit board application methods and illegal applications / violation of the application will not be covered by the warranty. Although our products are highly reliable, we recommend checking the module's response to the target gas prior to utilization to ensure on-site use. At the end of the products service life, please do not discard any electronics in the domestic waste, instead follow the local governments electronic waste recycling regulations for disposal.



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