

ECgaspoint

Ozone

Wireless Gas Sensor Device

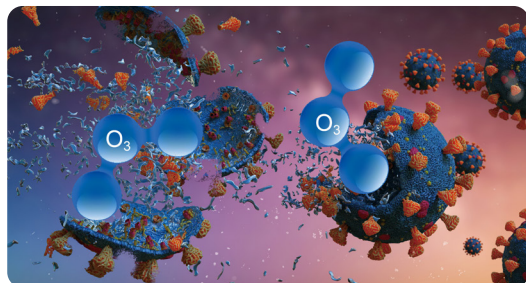
- Ozone cleaning process monitoring
- Ensuring workplace safety and health
- Ppb concentration level detection
- 40 years of experience in gas sensor technology





Ozone Cleaning

We hear a lot about ozone pollution or how the ozone layer protects the planet from UV rays, but ozone has another benefit: ozone cleaning.

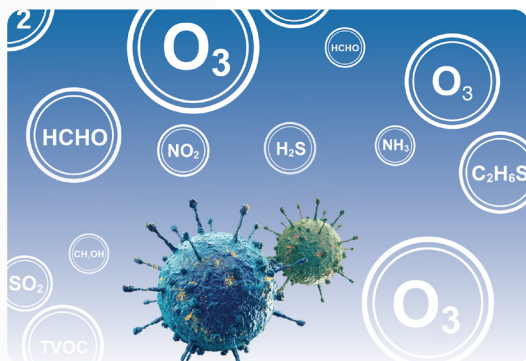


Ozone Cleaning faces the Coronavirus

This disinfection and cleaning technique is increasingly being practiced by professionals, especially since the beginning of the Covid-19 crisis. The technique is particularly popular because it makes it possible to easily carry out a complete decontamination of complex places to disinfect such as offices, hotel, hospital, public reception areas or even public transportation. For more information, see the validating report "Laboratory for Microbiology and Hygiene in Hoyerswerde".

What is Ozone Cleaning?

Ozone (O_3) cleaning is a simple technique: it consists in supplying ozone gas in a room through an ozone generator and letting it act until it decomposes into oxygen (O_2). Due to its oxidizing power, O_3 disinfects by eradicating viruses, bacteria, parasites and fungi that are present on all surfaces of a room and in the air.



Advantages of Ozone Cleaning Technology

- O_3 destroys microorganisms of all kinds (bacteria, viruses, spores) and sanitizes all surfaces as well as ambient air contaminated by the coronavirus.
- Ozonators are available at affordable prices for all businesses and public organizations.
- It is easy to use and it destroys odors quickly.
- It is a non-polluting technique.

Why is the Measurement of Ozone Important?

Ozone is a very powerful oxidant used for air purification processes or wastewater treatment. It is also an environmentally friendly oxidizing agent, but can be harmful to health at high concentrations.

During Ozone Cleaning

To be effective, the ozone process requires an ozone concentration of 3 to 20 ppm in the ambient air of the closed environment in question. It is important to continuously measure and control the ozone concentration to evaluate the cleaning efficiency. For various disinfection areas, it is necessary to accurately control the ozone concentration and ozone dwell time to achieve disinfection and sterilization. No person should be in the room during the ozone cleaning process. However, it is still necessary to measure the ozone concentration during the process to determine if the ozone concentration has been achieved and how long the ozone concentration is maintained. The data will ensure effective cleaning and killing of all bacteria and viruses in the room.

After Ozone Cleaning

ECgaspoint is used to control when the ozone concentration reaches a safe level below 0.06 ppm so that people can re-enter the room. High ozone concentrations have a detrimental effect on health. Therefore, after disinfection and sterilization are complete, an effective assessment is needed to determine if the ozone in the anti-viral environment has fully oxidized to a concentration that is safe for humans. Proper ventilation can increase gas convection and quickly reduce ozone concentrations.



Product Overview

ECgaspoint continuously monitors the ozone concentration and is able to track concentration changes in real-time.

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



Parameter

Ozone (O₃)

Temperature

Relative Humidity



O₃



Temperature

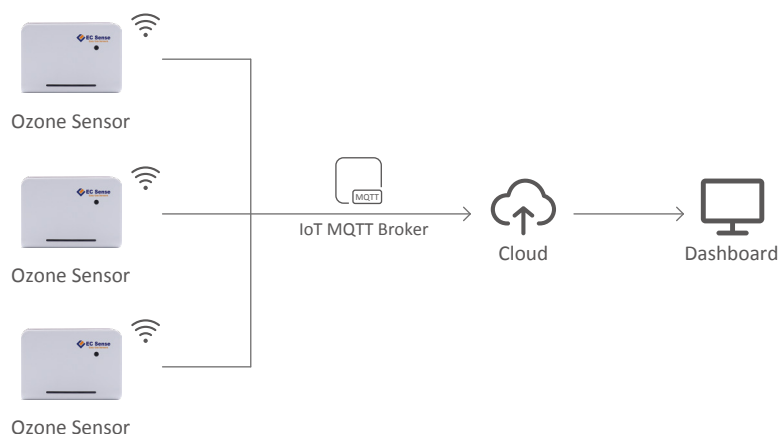


Relative Humidity

Easy Installation

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

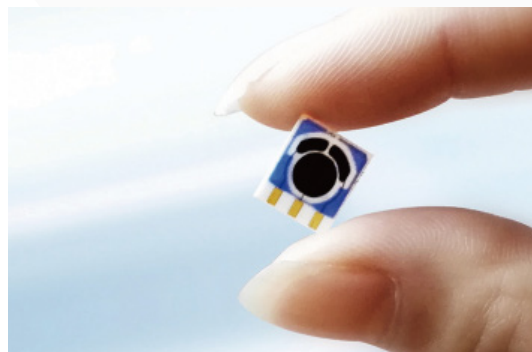
The measurement data is transferred to the dashboard via WiFi.





Key Sensing Technology from EC Sense

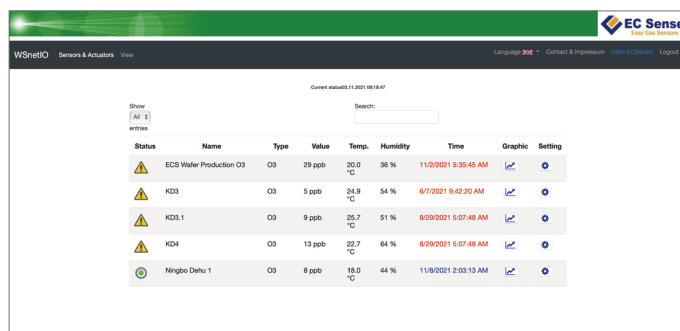
ECgaspoint uses the Solid Polymer Electrochemical Sensing Technology, which is for industrial applications. It employs a three-electrode arrangement - the working, the counter and the reference electrodes - in which concentration measurements can be performed continuously and the sensor operates at a 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.



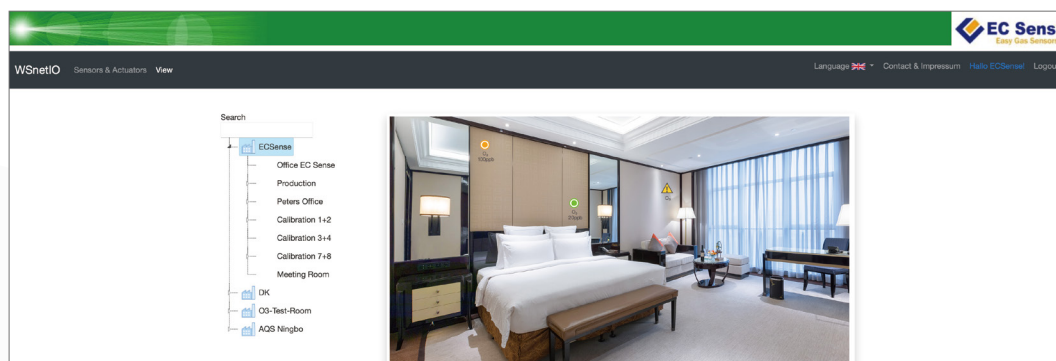
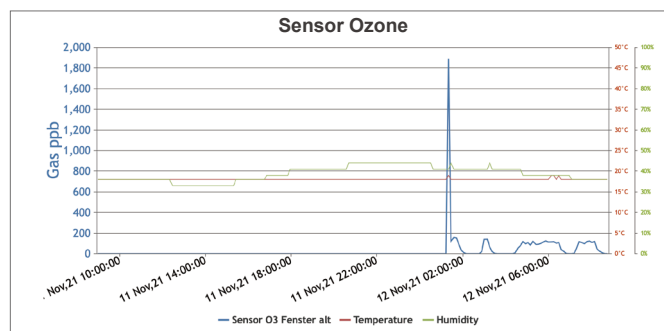
WSnetIO Cloud Systems

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.
- Define alarm levels.
- 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
	ECIS Water Production O3	O3	29 ppb	20.0 °C	36 %	11/2/2021 5:35:45 AM		
	HD3	O3	5 ppb	24.9 °C	54 %	6/7/2021 9:42:20 AM		
	HD3.1	O3	9 ppb	25.7 °C	51 %	8/29/2021 5:07:48 AM		
	HD4	O3	13 ppb	22.7 °C	64 %	8/29/2021 5:07:48 AM		
	Ningbo Dehu 1	O3	8 ppb	18.0 °C	44 %	11/8/2021 2:03:13 AM		





Typical Applications

ECgaspoint solution for all commercial, public and industrial buildings

- Ozone Cleaner
- School
- Train Station
- Shopping Mall
- Laboratory



- Waiting Room



- Hospital



- Hotel

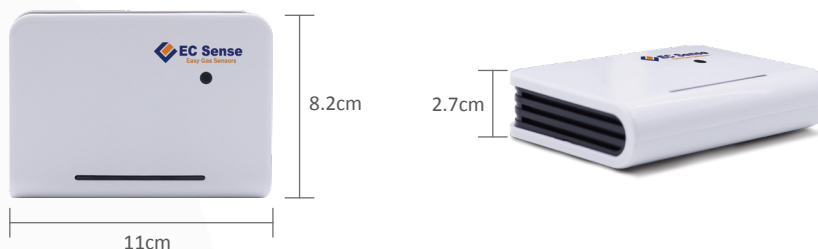


- Sport Center





Mechanical Drawing



Technical Specifications

Ozone Sensor

Measurement Range	0-5000ppb / 0-100ppm
Resolution	10ppb / 0.1ppm
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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