

PollusenseTM

Portable Air Quality Monitor



About Pollusense



Pollusense™ is a portable air quality monitoring device that measures multiple toxic gases and particulate matter. It offers a range of customizable parameters, making it ideal for various applications such as environmental impact assessments, industrial monitoring, environmental audits, mining, indoor air quality assessment, leak detection, construction sites, landfills, livestock management, and research.

Pollusense™ is a compact and briefcase-sized device that can be carried anywhere to get accurate air quality data. It also has an on-device display that lets users check concentration levels directly. The data collected by Pollusense™ can also be accessed through Oizom's Envizom™ environmental monitoring software, enabling comprehensive data visualization and analytics.



Product Features



In-built Display

View data directly on the device without relying on any smart devices.



Alerts and Notifications

Receive timely notifications when parameters exceed predefined limits.



Compact and Lightweight

Lightweight and compact system that can be easily set up and transported.



Patented Technology

Works on innovative e-breathing technology for higher data accuracy.



Real-time Data

Continuous monitoring and real-time data transfer at configurable intervals.



Internal Storage

Internal data storage capacity of up to 16 GB or 90 days.



Easy-to-carry

Carry anywhere you go and monitor air quality anytime.



Identity and Configuration

Geo-tagging allows you to get the exact location of the device, consisting of latitude and longitude coordinates.



Weather Resistant (IP65)

Durable enclosure designed to withstand extreme weather conditions.



Long Battery Life

Monitor the environmental parameters up to 24 hours without worrying about battery life.



Network Agnostic

Supports a wide range of connectivity options GSM/LTE/WiFi/LoRa/Ethernet/-Satellite.



Easy-to-set-up

Set up the device in no time and start getting accurate data.

Key Benefits



Quick Sensor Stabilisation

Get real-time Gas data within 30 minutes* and PM data within 5 minutes.



Quick & Seamless Installation

Easily deployable at the surface level or on industrial tripods for real-time monitoring.



Multi-parameter Monitoring

Compatible with a wide range of parameters, including PM, Gases, and Meteorological parameters.



Secure Cloud Platform

Secure platform for visualising and analysing data with easy API integration for immediate action.



Robust and Rugged

Durable enclosure to sustain extreme climatic conditions.



Portable Device

It is easy to carry, transport, and deploy at any location.

Pollusense Usecases



Industries

Comprehensively assess gaseous emissions and the environmental impact of industrial activities to make data-driven measures for minimising their fatal effect.



Environmental Audit

Conduct environmental audits and improve your ESG scores by optimising the environmental health and safety of the citizens.



Wastewater

Monitor odour intensity at wastewater treatment plants to regulate odour emission by appropriate maintenance on time.



Mining

Monitor harmful gas emissions and dust levels during mining activities to protect the working environment and nearby communities.

Pollusense Parameters

Sensors	ID	Range	Resolution	Min. Det.	Working Principle	Expected Sensor Life
 Ammonia (NH ₃)	OZNH3_4 OZNH3_2* OZNH3_3	0-10 ppm 0-100 ppm 0-1000 ppm	0.015 ppm 0.3 ppm 2 ppm	0.015 ppm 0.3 ppm 2 ppm	Electrochemical	2 Years
 Methane (CH ₄)	OZCH4_2	50-1,000,000 ppm	1 ppm	50 ppm	MEMS	2 Years
 Hydrogen Sulfide (H ₂ S)	OZH2S_5* OZH2S_2 OZH2S_3 OZH2S_4	0-10 ppm 0-50 ppm 0-200 ppm 0-2000 ppm	0.005 ppm 0.05 ppm 0.2 ppm 2 ppm	0.005 ppm 0.05 ppm 0.2 ppm 2 ppm	Electrochemical	2 Years
 Total Volatile Organic Compounds (VOC)	OZTVOC_1* OZTVOC_2	0-40 ppm 0-200 ppm	0.001 ppm 0.1 ppm	0.005 ppm 0.1 ppm	Photo Ionization Detection (PID)	2 Years #
 Particulate Matter (PM _{2.5} , PM ₁₀ , PM ₁ , PM ₁₀₀)	OZPM_1*	Upto 5000 µg/m ³ for PM ₁ , PM _{2.5} , PM ₁₀ & Upto 30 mg/m ³ for PM ₁₀₀	0.1 µg/m ³	1 µg/m ³	Laser Scattering	18 Months
 Chlorine (Cl ₂)	OZCl2_1* OZCl2_2	0-20 ppm 0-50 ppm	0.05 ppm 0.1 ppm	0.05 ppm 0.1 ppm	Electrochemical	2 Years
 Hydrogen Chloride (HCl)	OZHCl_1 OZHCl_2	0-50 ppm 0-100 ppm	0.5 ppm 1 ppm	0.5 ppm 1 ppm	Electrochemical	2 Years
 Formaldehyde (CH ₂ O)	OZCH2O_1* OZCH2O_2	0-10 ppm 0-50 ppm	0.05 ppm 0.1 ppm	0.05 ppm 0.1 ppm	Electrochemical	2 Years
 Methyl Mercaptan (CH ₃ SH)	OZCH3SH_1*	0-10 ppm	0.1 ppm	0.1 ppm	Electrochemical	2 Years
 Sulfur Dioxide (SO ₂)	OZSO2_4* OZSO2_2 OZSO2_3	0-20 ppm 0-100 ppm 0-2000 ppm	0.01 ppm 0.2 ppm 5 ppm	0.01 ppm 0.2 ppm 5 ppm	Electrochemical	2 Years
 Nitrogen Dioxide (NO ₂)	OZNO2_4* OZNO2_2 OZNO2_3	0-10 ppm 0-100 ppm 0-500 ppm	0.01 ppm 0.2 ppm 0.5 ppm	0.01 ppm 0.2 ppm 0.5 ppm	Electrochemical	2 Years
 Carbon Monoxide (CO)	OZCO_5* OZCO_4 OZCO_2 OZCO_3	0-10 ppm 0-50 ppm 0-100 ppm 0-1000 ppm	0.01 ppm 0.05 ppm 0.1 ppm 0.75 ppm	0.01 ppm 0.05 ppm 0.1 ppm 0.75 ppm	Electrochemical	2 Years
 Nitric Oxide (NO)	OZNO_3* OZNO_2	0-10 ppm 0-100 ppm	0.015 ppm 0.5 ppm	0.015 ppm 0.5 ppm	Electrochemical	2 Years
 Carbon Dioxide (CO ₂)	OZCO2_2*	0-5000 ppm	1 ppm	400 ppm	Non-Dispersive Infrared	2 Years
 Oxygen (O ₂)	OZO2_1*	0-25% VOL	0.1% VOL	0.1% VOL	Electrochemical	2 Years
 Ozone (O ₃)	OZO3_2*	0-8 ppm	0.01 ppm	0.01 ppm	Electrochemical	2 Years
 Hydrocarbon / NMHC	OZHC_1	0-20 ppm	0.001 ppm	0.005 ppm	Photo Ionization Detection (PID)	2 Years #
 BTEX	OZBTEX_1	0-10 ppm	0.001 ppm	0.001 ppm	Photo Ionization Detection (PID)	2 Years #
 Temperature	OZTEMP_1*	-40 to 125°C	0.01°C	-40 °C	Resistive/Photoacoustic	2 Years
 Humidity	OZHUM_1*	100% Rh	0.10%	0.10%	Resistive/Photoacoustic	2 Years
 Pressure	OZPRES_1*	300-1100 hPa	0.18 Pa	300 hPa	Resistive/Photoacoustic	2 Years

External Modules



Anemometer

OZWSD_1*, OZWSD_2
Wind Speed: 0-40 m/s; 0-80 m/s
Wind Gust: 0-40 m/s
Wind Direction: 0-359°
Working Principle: Ultrasonic



Rain Gauge

OZRAIN_1, OZRAIN_2*
Resolution: 0.25 mm; 0.10 mm
Working Principle: Tipping Bucket

TVOC, BTEX & HC Sensor Housing: 24 Months, TVOC, BTEX & HC Lamp is user replaceable: 10,000 hours

Expected Sensor Life can vary, subject to actual concentration on-site. In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only. Oizom® accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within.

*Indicates standard delivery timeline

Specifications



Technical

Processor	Quad Core ARM Cortex
Memory	2GB RAM / 16GB eMMC ROM
Device Interface	Display / On-device Software / API / Cloud Platform
Internal Data Storage	Up to 16 GB or 90 days



Communication

Data Interval	2-30 (configurable) minutes
Data-push Protocol	HTTPS post request to host server
Data-pull	HTTPS request on device IP
Firmware Updates	Over-The-Air Firmware Update
Standby Connectivity	GSM (2G/3G/4G/LTE) for remote diagnosis, FOTA updates, and cloud calibration



Mechanical

Size	503mm (L) x 406mm (W) x 193mm (H)
Weight	9 kg (Instrument weight)
Material	Waterproof (IPX7), dustproof (IP6X) & MIL-SPEC certified Case
Installation Method	Tripod Mount / Surface Level / +5/8" - 11 UNC Tripod



Environmental

Operating Temperature	-20 °C to 60 °C
Operating Humidity	0-93% RH
Recommended Temperature	-20 °C to 45 °C
Recommended Humidity	20-90% RH
Storage Conditions	10 - 40°C








Sensing

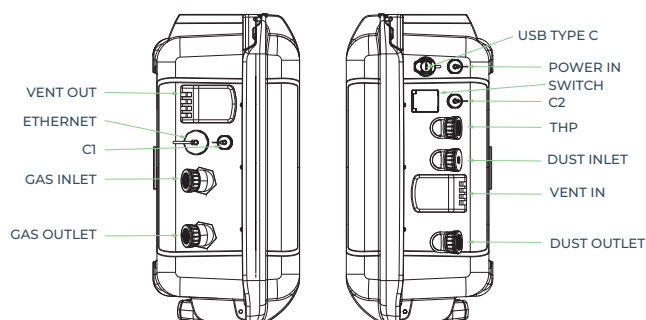
Gas sample mode	Active-Sampling
Warm-up time	Upto 30 min* for gas monitoring 15 min for PM monitoring



Electrical

Avg. Power Consumption	Up to 7 Watts
Power Input Options	AC: 100VAC- 240VAC 50/60Hz DC: 24V, 2A Type C: ≥ 45W PD
Battery	12.8V

Connectivity Options		Specification
Wireless	 GSM	Global 2G / 3G / 4G
	 LTE	CAT-M1
	 Wi-Fi	AP Mode and Station Mode
	 LoRa	868 MHz / 915 MHz
Wired	 ETHERNET	Static / DHCP Configuration

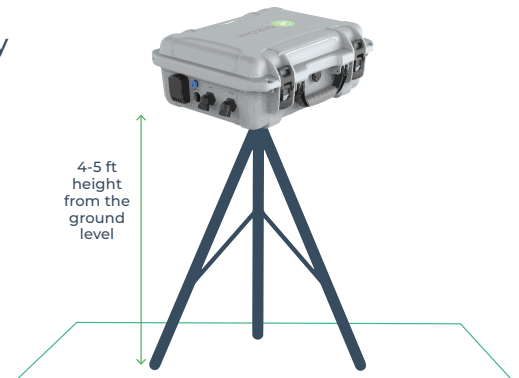


*30 min - if the device has been turned off for < 24 hours, and 3 hours - if the device has been turned off for long hours.

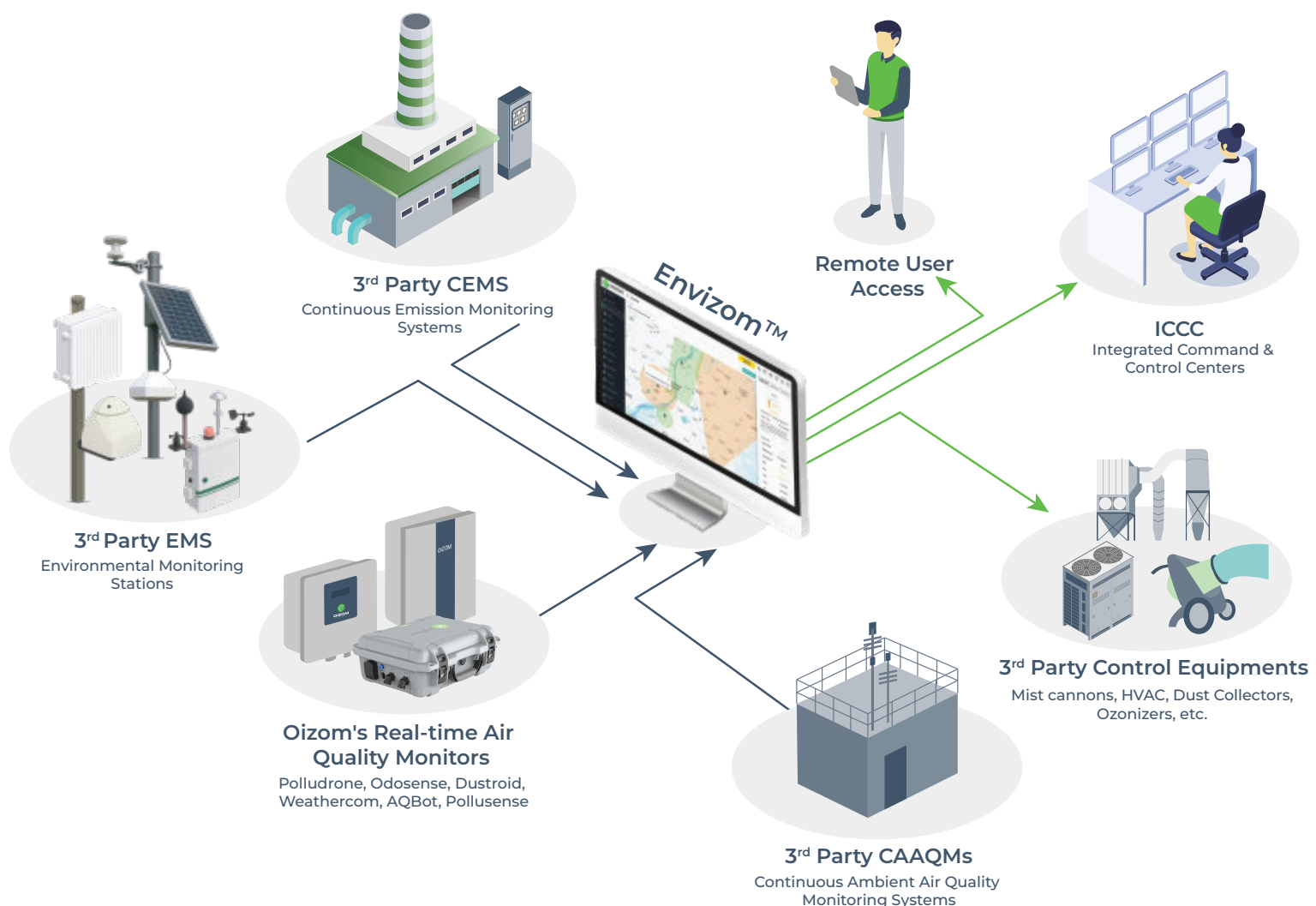
Functional Specifications

Proper location selection is critical for optimised data collection. It varies as per the purpose of the project. According to U.S. EPA QA handbook (Vol II, Section 6.0 Rev.1), the selection of locations should be based on monitoring purposes.

Preferred Mounting	Tripod Mount / Surface Level (preferably 270° open surrounding)
Installation Height	4-5 feet (1.2-1.5 meters) 5/8" - 11 UNC
Direction	As per minimum direct sunlight exposure
Setup	Recommended to setup the device under shade if the temp is above 35°C
Network Availability	Uninterrupted network connection



Solution Architecture



Envizom™

Data Visualisation and Analytics Platform



Envizom™ is Oizom's Environmental visualisation & analytics platform, built to turn complex air quality data into actionable insights. Providing remote visibility & control, it consolidates data from multiple sites, parameters, & devices into a single, intuitive dashboard. Our Environmental Data Interpretation Engine, powered by Artificial Intelligence & Machine Learning algorithms, provides accurate, real-time data, helps identify pollution sources, & understands directional trends. From city-wide comparisons to site-specific trends, smart multi-dimensional analytics enable comparisons across locations, parameters, & time spans. Envizom™ uses secure servers for data storage and on-premise storage is also supported.

Envizom's dashboard module lets users visualise the device's data in various widgets for easy understanding. With analytics and report modules, users can compare the data and get automated reports of the various air quality parameters.

Envizom™ Capabilities



Real-time Data



Smart Alerts



Pollution Heatmaps



Process Automation



Predictive Analytics



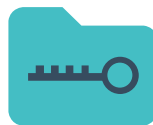
Automated Reports

Privacy First Platform



Data Privacy

The data shared with the client uses an encryption server through Secure Socket layers. Envizom™ also uses AES encryption for connection that adds to data safety.



Data Ownership

Envizom™ creates a secure and encrypted password combination for the user login. Oizom® ensures 100% privacy of the data and doesn't share without relevant permissions.



Data Transparency

Data collected from Oizom® equipment runs through the Environment Data Interpretation Engine. It processes various algorithms and eliminates environmental impact interferences on the sensors.



SANS



OWASP
Open Web Application
Security Project



IEC 62443-4-1



Security Tested



Practices



TCM
SECURITY



Trusted by

80+ Countries



Solutions Installed in

90+ Cities



Total Devices Installed

3500+



Total Population Covered

250 million+

Global Presence



Changing the way Industries monitor air quality



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