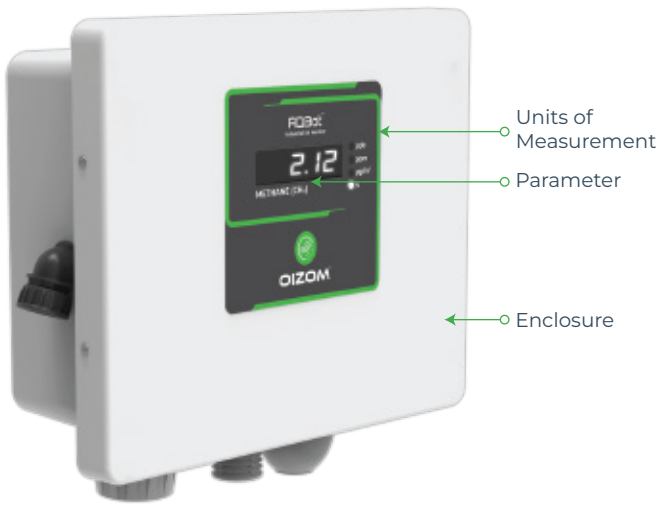


AQBot[™]

Industrial Grade Single Parameter Air Quality Monitor



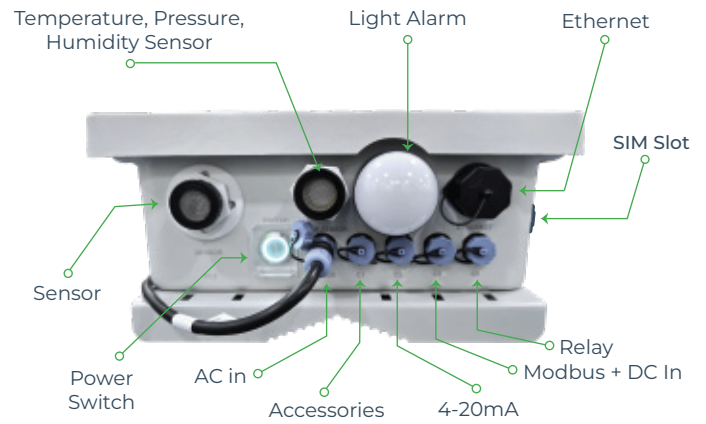
About AQBot™









AQBot™ is an industrial-grade air quality monitoring device designed to measure a specific gas or environmental parameter in real time. AQBot™ unit monitors one chosen pollutant (such as a particular gas, particulate matter, or noise), instead of monitoring dozens of contaminants. This allows industries to tailor their monitoring to what is crucial for them. AQBot™ empowers industries through technology and convenience without compromising the environment, enabling proactive air quality management. AQBot™ is built to withstand industrial conditions (dust, humidity, vibration), making it ideal for sectors like manufacturing, waste treatment, chemicals, and mining.



AQBot™ features a built-in digital display on the device, built-in relay outputs, and attachments like a siren and strobe lights. This allows the monitor to trigger immediate local alarms or control external mitigation equipment when a pollutant exceeds a threshold.



Product Features

-  Range of Parameters to Choose from
-  On-device Display
-  Real-time Data
-  Visualisation and Advanced Analytics Software
-  Built-in Relay for Automation
-  Siren and Strobe Light for Alerts

-  Compact
-  IP 66 Grade Certified
-  Wired Communication
-  Wireless Communication
-  Internal Data Storage
-  4-20 mA Current Loop

Key Benefits



Accurate Data

Gives accurate readings in real-time to detect concentrations in ambient air.



Robust and Rugged

Durable enclosure to sustain harsh industrial conditions.



Relay-Based Automation

In-built relay automation systems provide immediate alerts when the threshold limit rises and activate mitigation equipment.



Secure Cloud Platform

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



Easy to Install

Effortless installation with versatile mounting arrangements.



Seamless Connectivity

Wide range of connectivity options like GSM, Wi-Fi, LoRa Modbus, Satellite, RS-485, and 4-20mA

AQBot™ Usecases



Leak Detection

Comprehensively detect leaks and monitor hazardous gases or harmful chemicals in real-time to trigger alarms when pre-set threshold are exceeded.



Environmental Automation

Improve your environmental process control by monitoring air pollution, odour and other environmental conditions on a real-time basis.



Wastewater



Monitoring odour intensity at waste water treatment plants can help regulate odour emission by appropriate maintenance on time.



Industrial EHS

Conduct environmental audits and improve your ESG scores by optimising environmental and occupational health and safety.

AQBot Variants

| 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_1* OZH2S_2 OZH2S_3 OZH2S_4 | 0-1.5 ppm 0-50 ppm 0-200 ppm 0-2000 ppm | 0.001 ppm 0.05 ppm 0.2 ppm 2 ppm | 0.01 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 |
|  Noise | OZN_2* | Up to 140 dB | 1 dB | 0.5 dB | Capacitive | 2 Years |
|  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_1* OZSO2_2 OZSO2_3 | 0-10 ppm 0-100 ppm 0-2000 ppm | 0.001 ppm 0.2 ppm 5 ppm | 0.01 ppm 0.2 ppm 5 ppm | Electrochemical | 2 Years |
|  Nitrogen Dioxide (NO ₂) | OZNO2_1* OZNO2_2 OZNO2_3 | 0-10 ppm 0-100 ppm 0-500 ppm | 0.001 ppm 0.2 ppm 0.5 ppm | 0.01 ppm 0.2 ppm 0.5 ppm | Electrochemical | 2 Years |
|  Carbon Monoxide (CO) | OZCO_1* OZCO_4 OZCO_2 OZCO_3 | 0-5 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_1* OZNO_2 | 0-5 ppm 0-100 ppm | 0.001 ppm 0.5 ppm | 0.01 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 |
|  BTEX | OZBTEX_1 | 0-10 ppm | 0.001 ppm | 0.001 ppm | Photo Ionization Detection (PID) | 2 Years # |
|  Hydrocarbon / NMHC | OZHC_1 | 0-20 ppm | 0.001 ppm | 0.005 ppm | Photo Ionization Detection (PID) | 2 Years # |
|  Chlorine Dioxide (ClO ₂) | OZCLO2_1 | 0-1 ppm | 0.05 ppm | 0.05 ppm | Electrochemical | 2 Years |

TVOC, BTEX & HC Sensor Housing: 2 years, 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

Mechanical

| | |
|---------------------|--------------------------------------|
| Size | 210MM(W) x 258mm(H) X 105mm(D) |
| Weight | 2.8 Kg (instrument weight) |
| Material | NEMA 4X Fire Retardant FRP Enclosure |
| Certifications | CE, IP66, RoHS, FCC, PTCRB, ICASA |
| Installation Method | Pole Mount / Wall Mount |

Electrical

| | |
|------------------------|--|
| Avg. Power Consumption | 3.5 Watt (Actual consumption will vary upon the type of parameters) |
| Power Input Options | AC : External 90-265V AC, 50-60Hz DC : Uninterrupted 12V DC or 24V DC, 2 Ampere |
| Certifications | CE, RoHS, cURus UL, IEC/EN61000-4 and CISPR32/EN55032 & IEC/UL/EN62368 standard. |

Technical

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

Environmental









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

Communication

| | |
|----------------------|--|
| Data Interval | 2-30 minutes (configurable) |
| 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) for remote diagnosis, FOTA updates, and cloud calibration |

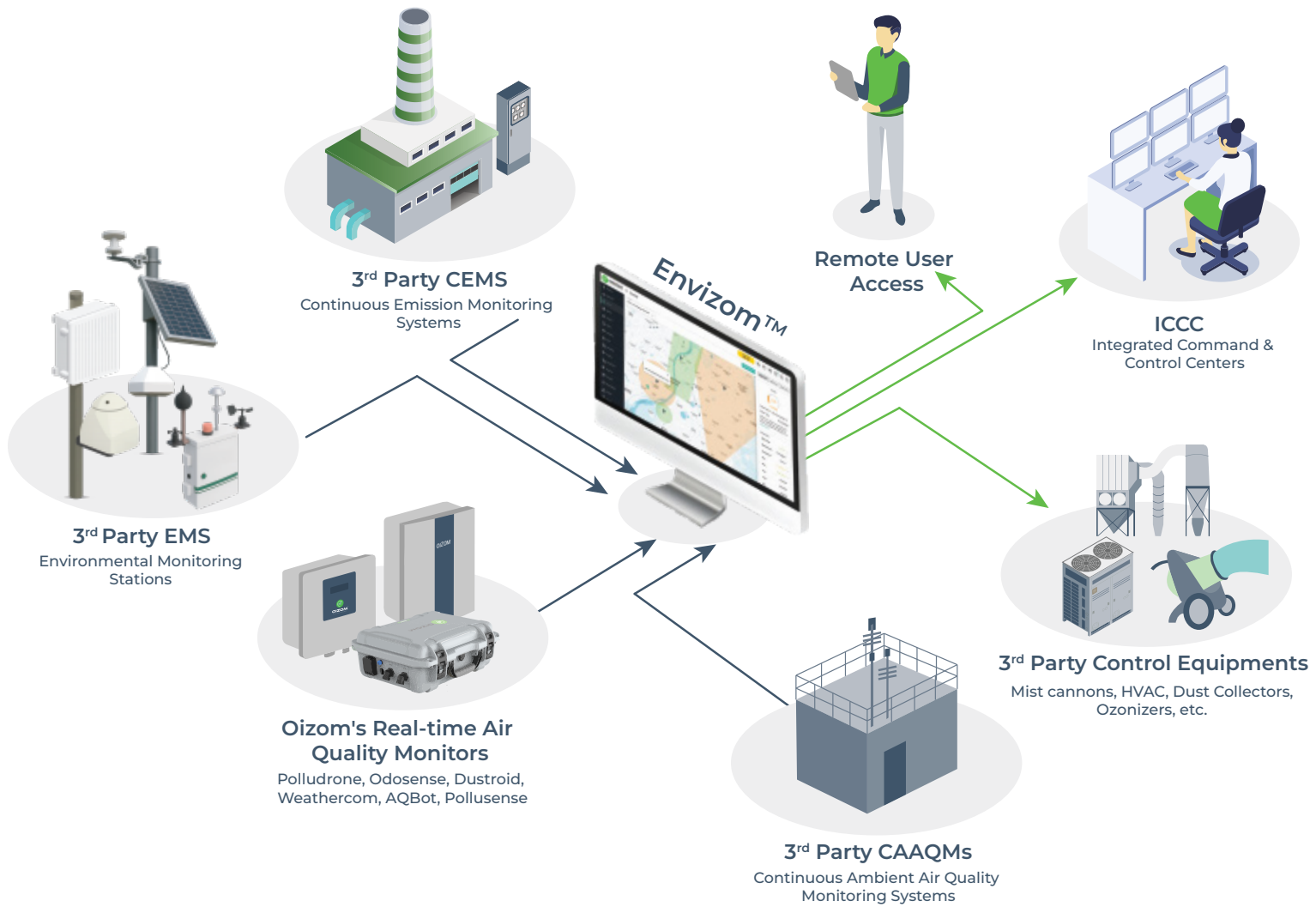
Sensing

| | |
|---------------------|-----------------------------------|
| Gas Sample Mode | Natural Diffusion |
| Warm up time | < 48 hours for data stabilisation |
| Response Time (t90) | < 60 seconds |
| Signal Refresh Rate | 5 seconds |
| Measuring Range | Refer Parameter Table |
| Accuracy | <±5% FS (at 20±5°C/50±20%RH) |
| Sensor Life | Refer Parameter Table |

| Connectivity Options | | Specification |
|----------------------|---|-----------------------------|
| Wireless |  GSM | Global 2G / 3G / 4G |
| |  LTE | CAT-M1 |
| |  Wi-Fi | AP Mode and Station Mode |
| |  Satellite | Satellite |
| Wired |  Ethernet | Static / DHCP Configuration |
| |  Modbus | RS485 RTU / TCP |
| |  RELAY | 2 Channel Relay Output |
| |  4-20 mA | 4-20 mA Current Loop |

Note: LoRa, NBIoT, Sigfox available as an option

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.

The Report module offers immediate and automated daily/weekly/monthly reports on emissions. The automation module enables users to activate third-party pollution control equipment, ensuring timely and precise intervention to maintain optimal environmental conditions.

Envizom™ Capabilities



Real-time Data



Process Automation



Smart Alerts



Trend Analysis



Custom Thresholds



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



IEC 62443-4-1



Security Tested



100w Cybersecurity Practices



TCM SECURITY

Case Studies



Monitoring Dust Particles at the Amara Raja Manufacturing Plant

Amara Raja installed Oizom's AQBot PM™ to monitor particulate matter in real-time, helping maintain a safe, clean, and compliant production environment within its manufacturing facility.



India



AQbot
PM



Industrial
Monitoring

AQBot™ is Monitoring Noise Levels at ArcelorMittal's Steel Plant

To manage industrial noise and support regulatory compliance, ArcelorMittal deployed AQBot™ Noise at its steel plant for continuous monitoring, enabling proactive noise control and worker protection.



India



AQbot
Noise



Industrial
Monitoring



Real-time CH₂O Monitoring in Australian Workplaces

In partnership with Ektimo, Australian industries installed Oizom's AQBot™ CH₂O to detect formaldehyde levels in real-time, ensuring safer working conditions and better air quality management.



Australia



AQbot
CH₂O



Industrial
EHS



Case Studies



Monitoring SO₂ and CH₄ at Reliance Chemical Products Ltd., Nigeria

Reliance Chemical Products Ltd. implemented AQBot™ SO₂ and AQBot™ CH₄ to monitor sulfur dioxide and methane levels, ensuring environmental compliance and worker safety at their industrial site.



Nigeria



AQbot
SO₂ & CH₄



Industrial
EHS

Lokhandwala Developers Deploy AQBot™ PM for Dust Monitoring at Construction Sites

To ensure dust control and regulatory adherence, Lokhandwala Developers installed AQBot™ PM for real-time particulate monitoring across construction locations, supporting healthier and cleaner environments.



India



AQBot PM



Construction
Monitoring



Chlorine Gas Monitoring at a Common Effluent Treatment Plant in Jetpur

A Common Effluent Treatment Plant (CETP) in Jetpur installed Oizom's AQBot™ Cl₂ to monitor chlorine gas levels in real time for safer plant operations and to help maintain efficient wastewater treatment.



India



AQbot
Cl₂



Wastewater



Industrial Applications



Paper And Pulp Industry

H₂S - Lime kiln and evaporator
TVOC - Chemical pulping, bleaching and evaporator
CO₂ - Fuel combustion, lime kiln
CH₃SH - Digester, black liquor storage, recovery boiler



Leather Industry

H₂S & NH₃ - Beamhouse, unhairing and liming process
TVOC - Finishing operations - drying
PM - Storage and handling of powdered chemicals
Cl₂ - Pickling process



Chemical Reaction

TVOC - Storage Tanks & Solvent Use process
NO_x - Combustion Processes & Nitric Acid Production
SO₂ - Combustion of Sulfur-Containing Fuels & Sulfuric, Acid Production, Sulphonation
PM - Handling of Raw Materials



Food And Beverages Industry

Cl₂ - In various disinfecting activities
NH₃ - Refrigeration and cooling systems
CO₂ - Carbonation and fermentation processes
ClO₂ - Disinfection and sanitisation processes



Wastewater Treatment Plants

CH₄ & CH₃SH - Sludge storage and anaerobic digestion
Cl₂ - Chlorination before outlet discharge



Dairy Industry

NH₃ - Manure storage and application
CH₄ - Manure in housing and enteric fermentation



Textile Industry

NO - Sizing process
TVOC - High temperature ovens - drying and coating
Cl₂ - Bleaching process
PM - Cotton handling process and boiler



Fisheries Industry

H₂S - Bacteriological and enzymatic decay
NO - Cooking and drying - fishmeal industry
TVOC - Direct and indirect fried dryers
NH₃ - Fish rotting



Thermal Power Plants

CO - Fuel combustion in boiler
NO - Natural gas/oil/coal based fuel combustion
CO₂ - Boiler fuel combustion
PM - Ash extraction plant



Steel plant

PM - Basic Oxygen Furnace and Blast furnace
NO_x & CO - Blast Furnace
SO₂ - Coke Ovens & Sinter Plant Crushing plant



Meat Processing Plants

H₂S - Storage and ETP
CH₄ & CH₃SH - By product, storage & ETP



All Industries

Noise - In every operation including rotary mechanical components

**This is an indicative list.
Speak to our representative for your exact requirement.*

Data and Calibration



1 Laboratory Calibration

All air quality monitoring systems are calibrated at the ISO/IEC 17025:2017 certified calibration laboratory using standard NIST traceable calibration gas standards as per the international guidelines by U.S. EPA. (Vol II, Section 6.0 Rev.1)

2 Collocation Calibration

Post lab calibration, the monitors are operated adjacent to a custom-built reference station housing U.S. EPA-designated Federal Equivalent Method (FEM)/Federal Reference Method (FRM) for collocation calibration to ensure optimum data quality.

3 On-site Calibration

On-site calibration of Oizom® devices can be performed using standard calibration gas cylinders of known concentration or by co-locating with a reference standard.

Other Oizom® Products



Odosense® Odour Monitoring System

Odosense® monitors various odourful and toxic gases and provides insight into odour dispersion.



Dustroid® Real-time Dust Monitor

Dustroid® is an online particulate monitoring system to measure various particulate matter sizes.



Weathercom® Automatic Weather Station

Weathercom® is an automatic weather station designed to measure various meteorological parameters.



Polludrone® Ambient Air Quality Monitoring

Polludrone® is an ambient air quality monitor that measures particulate matter, gases, and weather parameters.



Pollusense™ Portable Air Quality Monitor

Pollusense™ is a portable air quality monitor that measures multiple toxic gases and particulates.





Trusted by

80+ Countries



Solutions Installed in

90+ Cities



Total Devices Installed

3500+



Total Population Covered

250 million+

Oizom Customers



Changing the way Industries monitor air quality



Get in touch



House No.2, Garden View Corporate House,
Opp. Bodakdev Auda Garden, Ahmedabad, India

✉ contact@oizom.com / connect@oizom.com

☎ +91 88666 60025 / 39