ParyaClean

Smart | Cost-effective | Highly-scalable

Accurate Air Quality Monitoring and Advanced Data Analytics

Global Presence

70+
Countries

65+
Global Cities

2000+
Devices Installed

200M+
Population Covered

US EPA
RECOGNISED

Hardware & Software Ecosystem

30+ Environmental Parameters Monitoring Capability

- Dust
- Noise Level
- Polluting Gases
- Radiation
- Odourants
- Weather

With accuracy of 95%

Software Features

- Actionable Alerts
- Insightful Reports
- Predictive Analytics
- Industrial Automation
- LED Display / TV / Web
- Mobile App

Patented Technology

Technology Patent on Hybrid Sampling known as e-Breathing™ Technology

- **2 Patent granted in India, EU and US regions**
- **3 Design registrations**
- **12 Trademarks**

Product Features

- Real time data transfer
- 100% weatherproof (IP66)
- Upto 6 months of data backup
- Solar compatible
- 8+ ways of data communication
- Upto 12 hours of battery backup
- Tamper proof

Key Projects

	Skanska Tunnel	Agra Smart City	Saudi Aramco	Dubai
Our Customer	VOLUE	BHARAT ELECTRONICS	saudi aramco	DUBAI MUNICIPALITY
Application	Construction Monitoring	Smart City Monitoring	Industrial Fenceline Monitoring	Odour Monitoring
Data Use Case	Reassuring workers and ensuring environmental safety	Data driven city management and planning	Data driven environmental analysis	City Odour Monitoring
Project Size	4 Dust Monitors	39 Pollution monitors with rainfall monitoring	10 Pollution Monitors & weather monitor	25 Odour Monitors
Location	Skanska, Norway	Agra, India	Dammam, Saudi Arabia	Dubai, UAE

Parameters

Sensor		ID	Range	Resolution	Min. Detection	Working Principle	Expected Sensor Life
Wind Speed		OZWSD_1	0-40 m/s	0.1 m/s	0.1 m/s	Ultrasonic	2 years
Wind Direction			0-359°	1°	1°		
Rain		OZRAIN_1	N.A.	0.25 mm	0.25 mm	Tipping bucket	
Ambient Noise		OZN_1	Up to 140 dB	1dB	0.5 dB	Capacitive	
Temperature		OZTEMP_1	-40°C to 125°C	0.01°C	-40°C	Solid State Semiconductor Sensing	2 years
Humidity		OZHUM_1	100%Rh	0.10%	0.10%		
Barometric Pressure		OZPRES_1	300-1100 hPa	0.18Pa	300 hPa		
Pyranometer Solar Radiation 300 - 1100nm	Light Intensity	OZUV_1	Up to 1,00,000 Lux	1Lux	1Lux	Photoconductivity	3 years
	Visible Light		Upto 5000 Lux	0.1 Lux	0.1 Lux		
	UV Radiation		0.1-100,000 uW/cm2	0.1 uW/cm2	0.1 uW/cm2		
	UV Index		0-12	-	-		

Note: 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.

External Modules

Noise Sensor
OZN_1*
Working Principle: Capacitive
Range: Upto 140 dB

Vibration Sensors
PPV: +/- 2G
Range frequency: 0.5 - 250 Hz
Range velocity: ±50 mm/s (±2 in/s)
Working Principle: MEMS

Pyranometer
OZUV_1*
Working Principle: Photoconductivity

Soil Sensor
OZSOIL_1*
Measurement Types: NPK, pH, EC, TEMP, HUM

Vibration sensors and soil moisture sensors are available as optional features upon specific customer requests.

Specifications

Mechanical

Size	360mm (H) x 328mm (W) x 200mm (D)
Weight	8.7 Kg (instrument weight)
Material	Aluminum Magnesium Alloy, Mild-steel (With Powder Coating), FRP
Certifications	CE, NEMA 4X, IP66, RoHS, IMD

Electrical

Avg. Power Consumption	Up to 7 Watt (Actual consumption will vary upon the number of parameters)
Power Input Options	AC : External 110-240V AC, 50-60Hz DC : Uninterrupted 24V DC, 2 Ampere 60 Watt 24V Solar Panel
SMPS Specs	24V, 2Amps output UL-62368 & CAN/CSA C22.2 Certified
Battery Backup Time	Up to 12 Hours
Battery Specs	Lithium iron phosphate (LiFePO4) battery cell with rated voltage 12.8V Capacity 6Ah

Technical

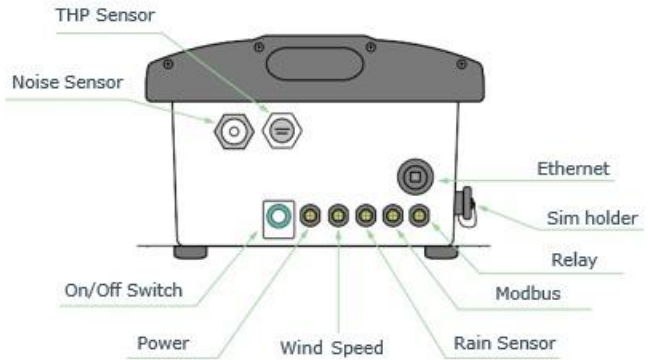
Processor	Quad Core ARM Cortex
Memory	2GB RAM 8GB eMMC ROM
Device Interface	On-device Software / API / Cloud Platform
Internal Data Storage	Upto 8 GB or 90 days

Environmental

Operating Temperature	-20 °C to 60 °C
Operating Humidity	0-93% RH
Recommended Humidity	15-90% RH
Storage Conditions	10 - 40°C

Communication

Data Interval	2-30 (configurable) minutes
Data-push Protocol	HTTP post request to host server
Data-pull	HTTP 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
Certification	PTCRB, CE, FCC, RoHS, ICASA, GCF



	Connectivity Options	Specification
Wireless	GSM	Global 2G / 3G / 4G
	LoRa	868 MHz / 915 MHz
	LTE	CAT-M1
	NB-IoT	CAT-NB1
	sigfox	868 to 869 MHz, 902 to 928 MHz
	Wi Fi	AP Mode and Station Mode
		Satellite
Wired		Static / DHCP Configuration
	Modbus	RS485 RTU / TCP
	RELAY	2 Channel Relay

Functional Specifications

Strategic Location Selection
EPA's Meteorological guidelines for regulatory modelling mentions the following distance/height from the ground level for strategic sensor location:

Wind Speed and Direction
Wind sensor should be at least 10 m above the surface to avoid hindrance by buildings.

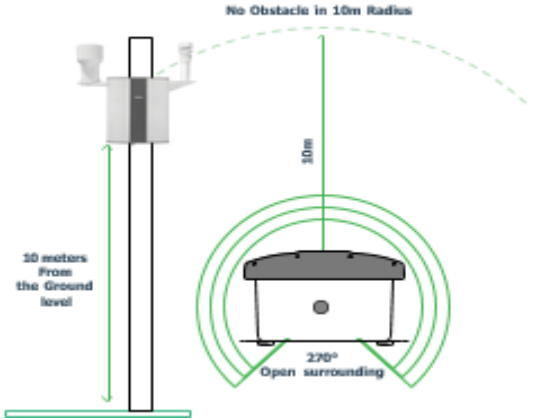
Temperature and Humidity
This sensor should be located 2 m above the surface.

Rain Gauge
It should be placed on the ground level such that its mouth faces horizontally towards the sky.

Solar Radiation
Pyranometer should be placed such that it has unrestricted incoming radiations from all directions.

Installation

Preferred Mounting	Pole / Wall (preferably 270° open surrounding)
Installation Height	12-15 feet (4-5 meters)
Direction	As per maximum direct sunlight exposure
Power Availability	Constant AC / DC supply within a 2-meter range from the unit or solar panel
Network Availability	Uninterrupted network connection



Products And Solutions

Weathercom

Wind Speed
Ultrasonic Monitoring

Wind Direction
Ultrasonic Monitoring

Rainfall
Real time rainfall in inch/cm

Ambient Light
UV + IR + Light Intensity

Meteorological
Temperature, humidity and pressure

Weathercom Applications

Sea Ports

- Ground level weather data monitoring
- Early warning

Roads And Highways

- Dynamic top-speed limit based on weather condition

Flora And Fauna

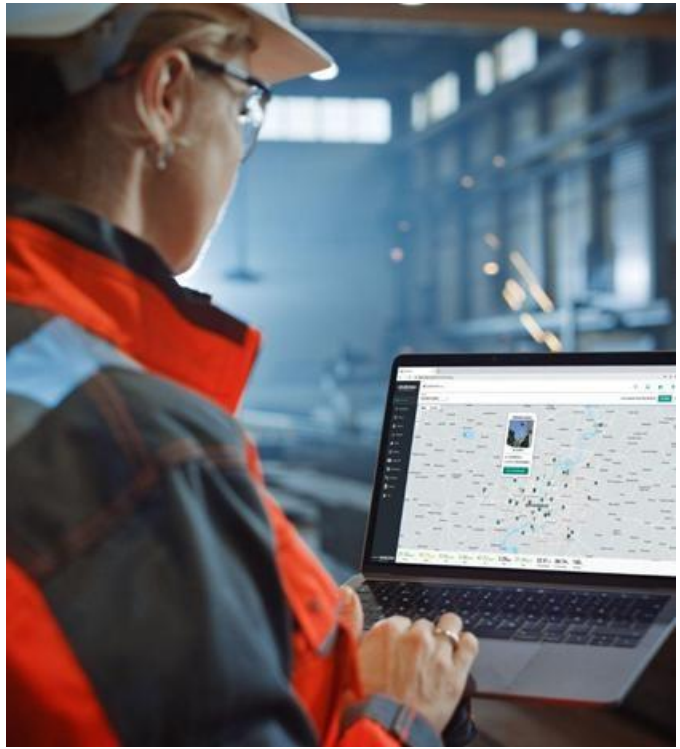
- Early detection of forest fires
- Weather monitoring for agricultural needs
- Cannabis cultivation improvements

Smart City

- Urban Expansion Planning
- Industrial Policy/Regulation
- Public Awareness
- Public Healthcare Prediction
- Disaster Management
- Infra. Development
- Planning
- Temporary Event Regulation

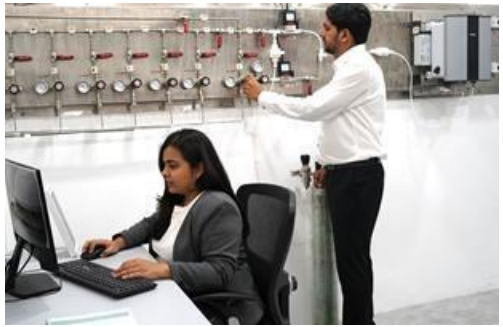
Envizom™ Platform

- Customizable Dashboard
- Automated Reports
- Data Analytics
- Environmental Widgets
- Smart Notifications
- Pollution Heatmaps



Calibration Capabilities

Levels Of Calibration



Lab 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 USEPA.

Collocation Calibration

The monitors are operated adjacent to a custom built reference station housing U.S. EPA designated Federal Equivalent Method (FEM) for collocation calibration to ensure optimum data quality.

Spot Calibration

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

Lab Calibration Partnership

We designed a gas calibration system and set-up a calibration facility in ATIRA, an Ahmedabad based research institute having NABL / ISO 17025 certified environment laboratory.

Co-location Calibration

Operation And Maintenance

Cleaning
Maintenance and cleaning should be carried out regularly, which includes cleaning the dome for the light sensor, air inlet, outlet mesh and the exterior.

Sensor Replacement
The sensors need to be replaced once their performance starts to deteriorate and the system starts giving unstable data.

Spot-Calibration
Spot calibration can be performed using reference equipment to ensure data accuracy.

Diagnosis/Debugging
Power and network availability are the prime check in case of equipment failure. If the issue is still unresolved after remote diagnosis, on-site troubleshooting can be planned by an engineer.

Oizom® Product Ecosystem

Polludrone

Odosense

Dustroid

Weathercom

AQBot

Pollusense

IoT Data Platform

Envizom

Certificates

पेटेंट कार्यालय,भारत सरकार
पेटेंट प्रमाण पत्र |
(पेटेंट नियमावली का नियम 74)

The Patent Office, Government Of India
Patent Certificate
(Rule 74 of The Patents Rules)

पेटेंट सं. / Patent No. : 510653

आवेदन सं. / Application No. : 201621002677

फाइल करने की तारीख / Date of Filing : 11/02/2016

पेटेंटी / Patentee : 1.Ankit Jayesh Vyas 2.Vrushank Jayesh Vyas 3.Sohil Sanjaybhai Patel

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित *REAL-TIME AIR-QUALITY MONITORING SYSTEM WITH HYBRID AIR-QUALITY MEASUREMENT APPARATUS* नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख रुपरी 2016 के ग्यारहवें दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

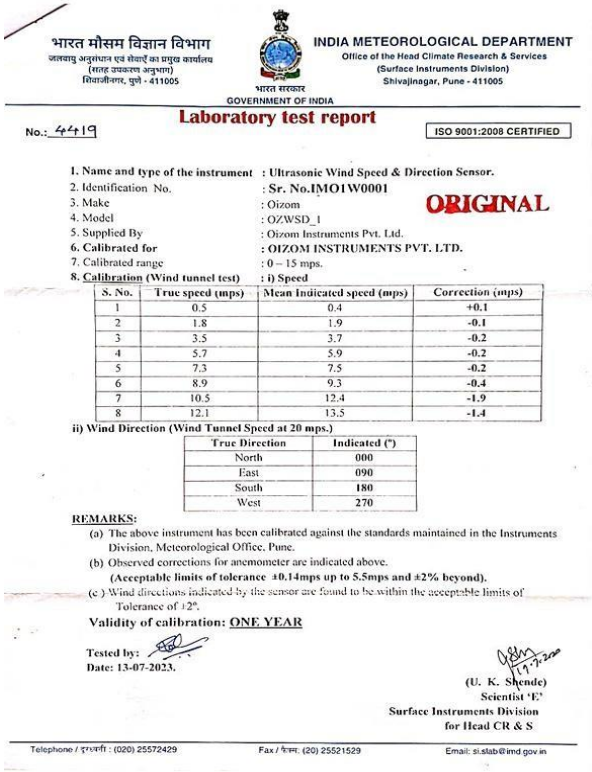
It is hereby certified that a patent has been granted to the patentee for an invention entitled *REAL-TIME AIR-QUALITY MONITORING SYSTEM WITH HYBRID AIR-QUALITY MEASUREMENT APPARATUS* as disclosed in the above mentioned application for the term of 20 years from the 11th day of February 2016 in accordance with the provisions of the Patents Act,1970.

अनुदान की तारीख : 14/02/2024
Date of Grant :

पेटेंट नियंत्रक
Controller of Patents

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, फरवरी 2018 के ग्यारहवें दिन को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

Note - The fees for renewal of this patent, if it is to be maintained, will fall / has fallen due on 11th day of February 2018 and on the same day in every year thereafter.



भारत मौसम विज्ञान विभाग
जलवायु अनुसंधान एवं सेवाएँ का प्रमुख कार्यालय
(सतह उपकरण अनुभाग)
शिवाजीनगर, पुणे - 411005

भारत सरकार
GOVERNMENT OF INDIA

INDIA METEOROLOGICAL DEPARTMENT
Office of the Head Climate Research & Services
(Surface Instruments Division)
Shivajinagar, Pune - 411005

Laboratory test report

No.: 4419

ISO 9001:2008 CERTIFIED

ORIGINAL

1. Name and type of the instrument : Ultrasonic Wind Speed & Direction Sensor.
2. Identification No. : Sr. No.IMO1W0001
3. Make : Oizom
4. Model : OZWSD_1
5. Supplied By : Oizom Instruments Pvt. Ltd.
6. Calibrated for : OIZOM INSTRUMENTS PVT. LTD.
7. Calibrated range : 0 – 15 mps.
8. Calibration (Wind tunnel test) : i) Speed

S. No.	True speed (mps)	Mean Indicated speed (mps)	Correction (mps)
1	0.5	0.4	+0.1
2	1.8	1.9	-0.1
3	3.5	3.7	-0.2
4	5.7	5.9	-0.2
5	7.3	7.5	-0.2
6	8.9	9.3	-0.4
7	10.5	12.4	-1.9
8	12.1	13.5	-1.4

ii) Wind Direction (Wind Tunnel Speed at 20 mps.)

True Direction	Indicated (°)
North	000
East	090
South	180
West	270

REMARKS:
(a) The above instrument has been calibrated against the standards maintained in the Instruments Division, Meteorological Office, Pune.
(b) Observed corrections for anemometer are indicated above.
(Acceptable limits of tolerance ±0.14mps up to 5.5mps and ±2% beyond).
(c) Wind directions indicated by the sensor are found to be within the acceptable limits of Tolerance of ±2°.

Validity of calibration: ONE YEAR

Tested by:
Date: 13-07-2023.

(U. K. Shende)
Scientist 'E'
Surface Instruments Division
for Head CR & S

Telephone / दूरध्वनी : (020) 25572429 Fax / फैक्स: (20) 25521529 Email: si.slab@imd.gov.in

National Accreditation Board for Testing and Calibration Laboratories

NABL

CERTIFICATE OF ACCREDITATION

AHMEDABAD TEXTILE INDUSTRY'S RESEARCH ASSOCIATION

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

DR. VIKRAM SARABHAI ROAD, P.O. AMBAWADI VISTAR, AHMEDABAD, GUJARAT, INDIA

in the field of

CALIBRATION

Certificate Number: CC-3781

Issue Date: 10/12/2023 Valid Until: 09/12/2025

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: Ahmedabad Textile Industry's Research Association

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

Sky is the limit!

rad@acsgsystems.com
9266207215, 9599016849
www.acsgsystems.com