OIZOM®
REDEFINING RESOURCES

Weathercom®

Automatic Weather Station

About Weathercom®

Weathercom® measures meteorological parameters such as wind speed and direction, rainfall, visibility, UV-radiation, light intensity, temperature, humidity, pressure, etc. Through Weathercom®, hyper-local meteorological parameters can be monitored in real-time which can help to take on-time decisions in case of any natural hazard. Weather forecasting and predictions is possible through historical data and trend analysis which can aid in timely warning / alert broadcasting.

The equipment is easily installed with our plug-and-play feature, and solar panel makes it independent of any power source. It can withstand extreme weather conditions from tropical heat to arctic cold as well as extreme wind and rains. These features make Weathercom® an ideal choice for comprehensive meteorological monitoring.

Product Features

Solar Powered with Battery Backup
Compatible to charge internal battery using solar power.

Retrofit Design
Plug and play design for ease of implementation.

Compact
Light-weight and compact system that can be installed at 12-15 feet (4-5 m) height.

Ultimate Durability
Made of high-grade engineering-metal and composite polymers for a long life.

Identity And Configuration
Each equipment carries its unique identity with geo-tagging through wireless configuration.

Weather Resistant
IP66 Grade (certified) enclosure for endurance against harsh weather conditions.

Over-The-Air Update
Automatically upgradeable from a central server without any onsite visit.

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

Network Agnostic
Supports a wide range of connectivity options like GSM / GPRS / WiFi / LoRa / NBIoT / Ethernet / Modbus.

Internal Storage
Internal data storage capacity of upto 8 GB or 90 days.

Key Benefits

Robust And Rugged
Durable enclosure to sustain extreme climatic conditions.

Multi-parameter
Compatible with a wide range of parameters including PM, gases and meteorological parameters

Seamless Connectivity
A wide range of options of wired and wireless connectivity.

Cloud Platform
Visualise and analyse data in the cloud. Easy data integration via APIs.

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

Easy to install
Effortless installation with versatile mounting arrangements.

Weathercom® Usecases

Sea Ports
The data acquired from the device can help detect approaching storms or high winds and take the required decisions beforehand.

Roads And Highways
Road accidents can be prevented by cautioning drivers and setting up a dynamic speed limit as per the weather conditions.

Flora And Fauna
Weathercom® provides actionable data insights to agricultural industries and forest departments worldwide.

Smart City
Pollution monitoring at strategic locations in a smart-city empowers city authorities to obtain actionable insights for pollution control.

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.	0.5 mm	0.5 mm	Tipping bucket	
Ambient Noise	OZN_1	Up to 140 dB	1 dB	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	0.18 Pa	300 hPa		
Light Intensity	OZUV_1	Up to 1,00,000 Lux	1 Lux	1 Lux	Photoconductivity	3 years
UV Radiation		0.1-100,000 uW/cm²	0.1 uW/cm²	0.1 uW/cm²		
Visible Light Intensity		Upto 5000 Lux	0.1 Lux	0.1 Lux		

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

Electrical

Avg. Power Consumption	5 Watt (Actual consumption depends 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	Upto 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

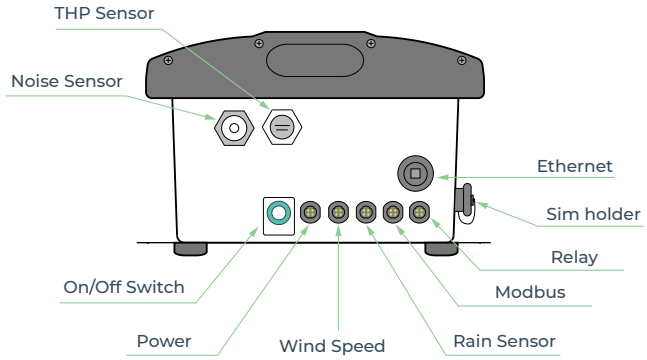
Operating Temperature	-20 °C to 60 °C
Operating Humidity	0-93% RH
Recommended Humidity	15-90% RH
Storage Conditions	10 - 40°C

Sensing

Gas Measurement Principle	Active Sampling with Sampling rate of 325 mL/Sample
Dust Measurement Principle	Active Sampling with Sampling rate of 1 L / min
Warm up time	< 2 minutes for data stabilisation

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
Wired	ETHERNET	Static / DHCP Configuration
	Modbus	RS485 RTU / TCP
	RELAY	2 Channel

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.

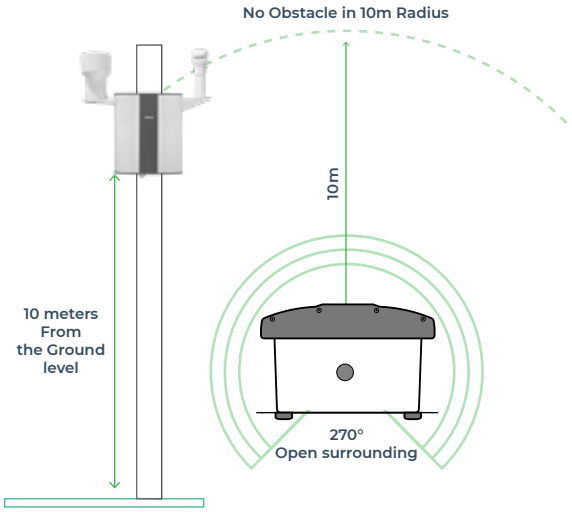
Temperature and Humidity
This sensor should be located 2 m above the surface.

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

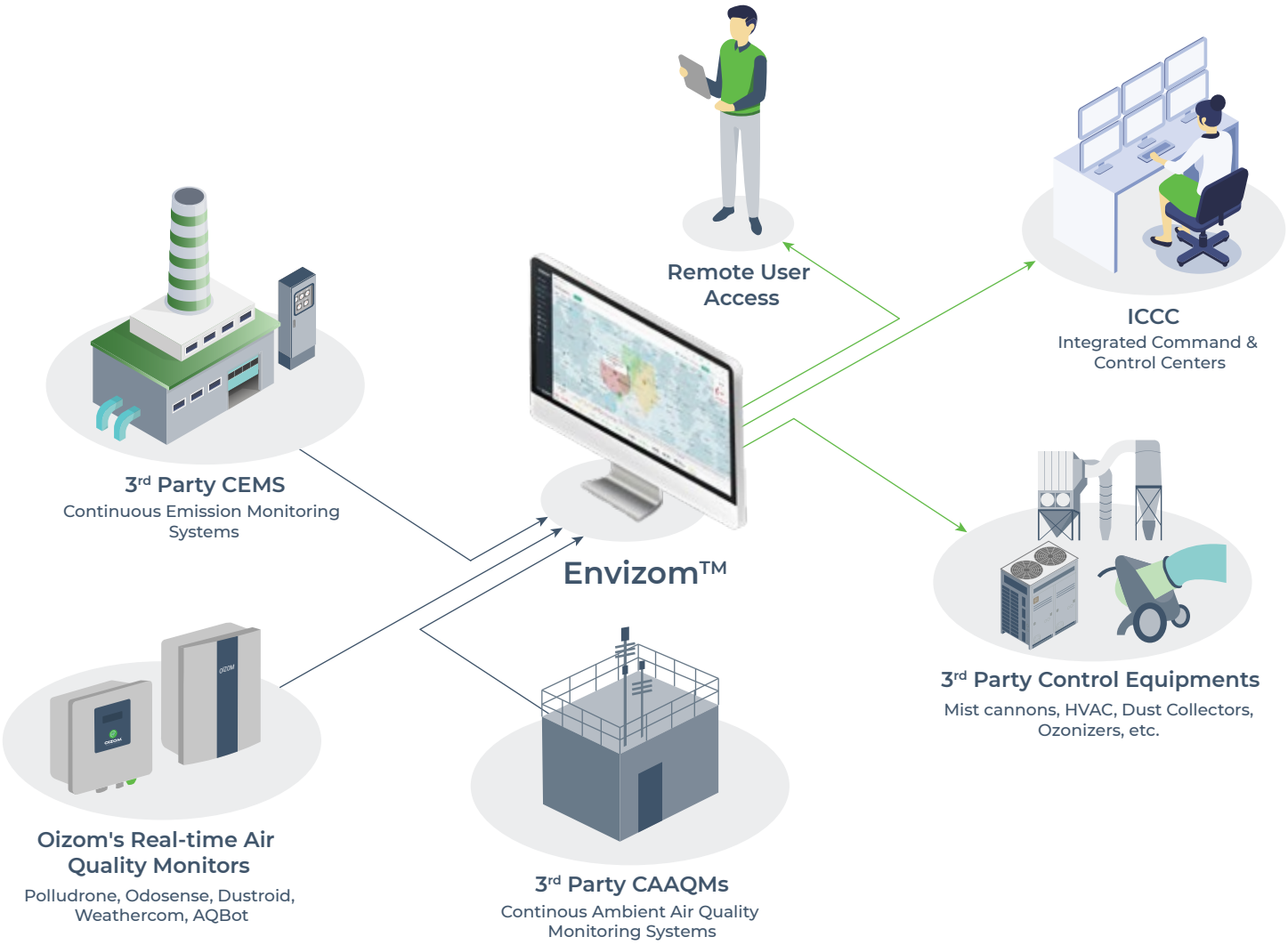
Solar Radiation
Pyranometer should be placed such that it has unrestricted incoming radiations from all directions.

Installation

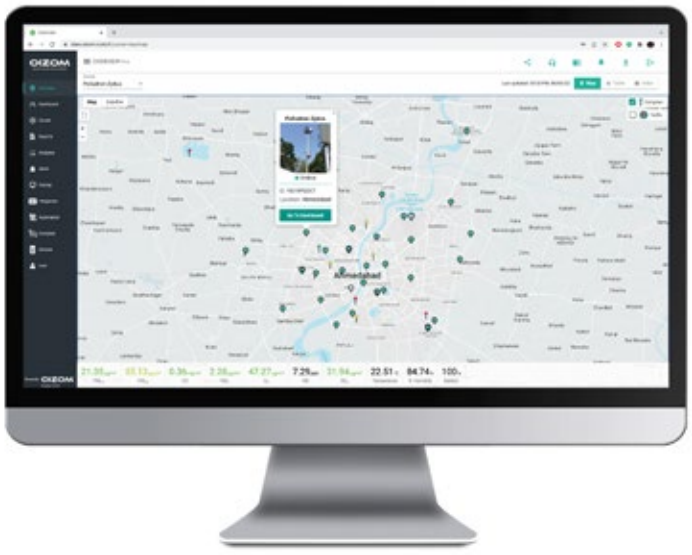
Preferred Mounting	Pole / Wall (preferably 270° open surrounding)
Installation Height	12-15 feet (4-5 meters)
Direction	As per maximum direct sunlight exposure
Power Availability	Constant AC / DC supply within a 2-meter range from the unit or solar panel
Network Availability	Uninterrupted network connection



Solution Architecture

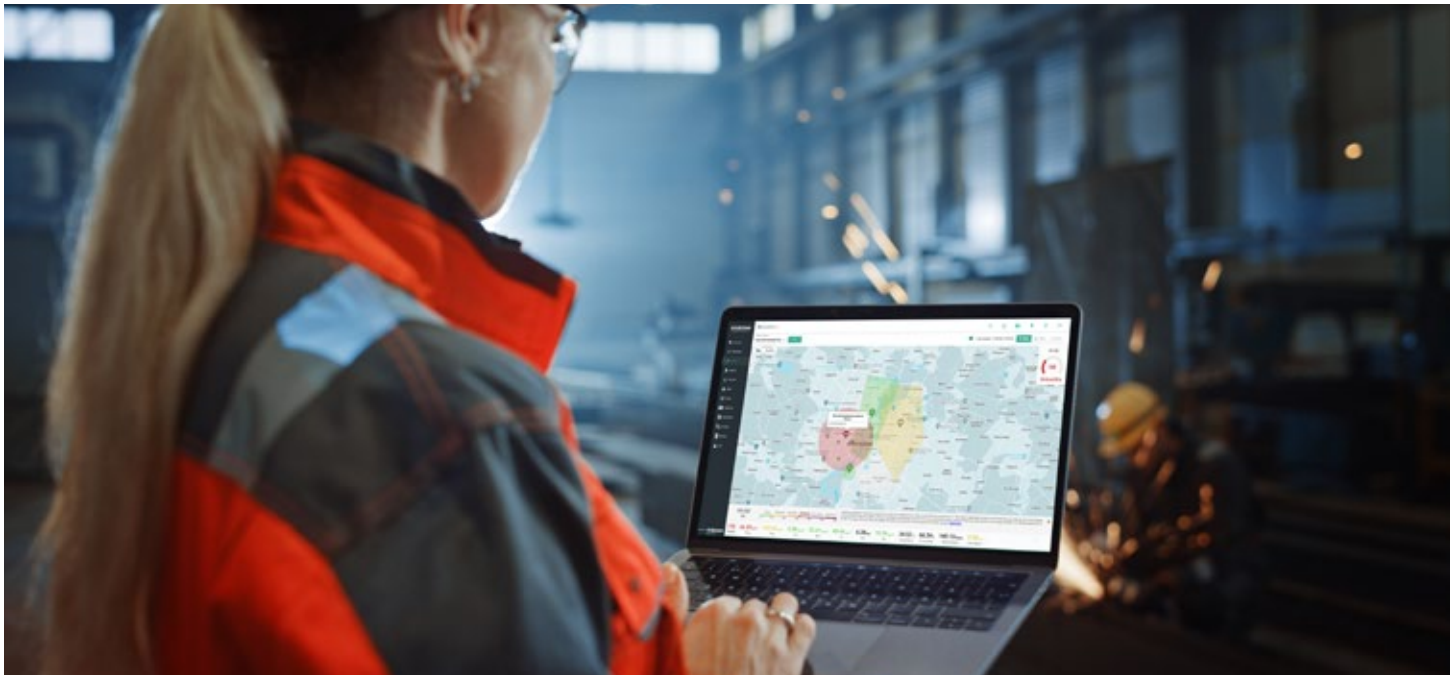


Envizom™ Air Quality Software



An on-device data software enables users to access the data, configure networks and sensors without any dependency on the internet. Users can also connect their smart devices to Weathercom® and view real-time data, perform on-site calibration, change network configuration, and change sensor configuration.

Envizom™ Features



- Real-time data
- Smart alerts
- User friendly interface
- Easy to Set Up
- One click share
- Data accessibility

Privacy First Platform

Data Privacy

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

Data Ownership

Envizom™ creates a secured 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.

Case Studies

Monitoring weather on a real-time basis in Dholera Smart City

Oizom® is monitoring the weather in the Dholera Smart city on a real-time basis by installing Weathercom.®

India | July 2020 | Smart City

Monitoring Weather at Adani Dighi Port, Maharashtra

Adani Dighi Port in Maharashtra is monitoring the weather by using Oizom®'s Weather Monitoring Station – Weathercom.®

India | November 2021 | Seaports

Case Studies

Weather monitoring with Pollucon at Mormugao Port, Goa

At Adani Mormugao Port Terminal in Goa, weather monitoring was done with Pollucon Laboratories to measure the wind and rain in the area.

India | May 2021 | Seaports

Meteorology Data Monitoring at WWTP, Dubai

Weathercom® were installed at a Waster Water Treatment Facility for Dubai Municipality. Crucial meteorological data such as wind direction speed along with Odosense® is analysed for source detection.

Dubai | March 2022 | WWTP

Case Studies

Flood and weather monitoring in Colombia

Oizom®'s weather monitoring station, Weathercom® is monitoring the rainfall and flood levels in Colombia to warn and safeguard civilians from these natural disasters.

Colombia | February 2022 | Smart City

Weather Monitoring at Kandla Port, India

At Kandla Port where over 100 MMT Cargo is handled, Weathercom® monitors Rain, Wind Direction and Wind Speed data for Port Personnel Daily activities and weather data.

India | July 2020 | Sea Ports

About Oizom®

Leaders in sensor based air quality monitoring

Plug and play monitors for hassle free setup

Low powered solutions for multiple applications

Oizom® is an environmental IoT company offering data-driven environmental solutions for better decision-making. With our sensor-based hardware, we monitor various environmental parameters like air quality, noise, odour, radiation, weather conditions, etc. Our data analytics platform derives many actionable insights for authorities, communities, and industries. Oizom® strives to play an essential role in a sustainable future through smart environmental solutions and data science.

Oizom® has years of experience in stimulating innovation by creating groundbreaking technology for environmental monitoring. With an IoT-based development approach, Oizom® has been able to successfully unlock multiple solutions, catering to various industries.

Other Oizom® Products

Polludrone®

Ambient Air Quality Monitoring

Polludrone® is ideal for real-time ambient air quality monitoring for urban and industrial applications.

Odosense®

Odour Monitoring System

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

Dustroid®

Real-time Dust Monitor

Dustroid® is an online particulate monitoring system to measure a wide spectrum of particulate matter sizes.

AQBot™

Single Parameter Air Quality Monitor

AQBot™ is an industrial grade single parameter air quality monitor with automation capabilities.

OIZOM®
REDEFINING RESOURCES

Trusted by
60+ Countries

Solutions Installed in
65+ Cities

Total Devices Installed
1000+

Total Population Covered
200 million+

Global Presence

ISO 9001:2015 | ISO 14001 | MAKE IN INDIA

Accurate Air Quality Monitoring And Advanced Data Analytics

Get in touch

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