

# Polludrone<sup>®</sup> Smart

## Ambient Air Quality Monitoring Device



Polludrone is a Continuous Ambient Air Quality Monitoring System (CAAQMS). It is capable of monitoring various environmental parameters related to air quality, noise, odour, weather, radiation. It measures the particulate matter and gaseous concentrations in the ambient air in real-time. Using external probes, it can also monitor other auxiliary parameters like traffic, disaster and weather monitoring.



Ultimate  
Durability



Weather  
Resistant



Compact and  
Lightweight



Solar  
Powered



Retrofit  
Design



Real-Time  
Data



Tamper  
Proof



Network  
Agnostic



Over-The-Air  
Updates



3-level  
Calibration

## Our Technology

The air quality monitoring device has all the air quality sensor modules integrated into a single enclosure. Each sensor module works on different technologies. Our sensing technology works on proven working principles such as NDIR, Electrochemical Analysis, Semiconductor, Optical Measurement, and Laser-Scattering. As a part of our proprietary 'Micro Active Sampling' (e-breathing technology), we have a sophisticated suction-and-exhaust system for air sample collection and monitoring inside a controlled environment. This isolates the effect of the external environment on measurement to achieve 13% higher accuracy than the industry standards.

## Polludrone<sup>®</sup> Usecases



Roads And Highways



Smart City

# Parameters

| Sensor                                                                      |                 | ID        | Range                          | Resolution             | Min. Detection         | Drift          | Working Principle        | Expected Sensor Life |                                   |
|-----------------------------------------------------------------------------|-----------------|-----------|--------------------------------|------------------------|------------------------|----------------|--------------------------|----------------------|-----------------------------------|
| Suspended Particulate Matters with size less than 2.5μ (PM <sub>2.5</sub> ) |                 | OZPM_1*   | Upto 5000 μg/m <sup>3</sup>    | 0.1 μg/m <sup>3</sup>  | 1 μg/m <sup>3</sup>    | N.A.           | Optical Particle Counter | 18 Months            |                                   |
| Suspended Particulate Matters with size less than 10μ (PM <sub>10</sub> )   |                 |           |                                |                        |                        |                |                          |                      |                                   |
| Carbon Monoxide (CO)                                                        |                 | OZCO_1*   | 0-5 ppm                        | 0.01 ppm               | 0.01 ppm               | < 1ppm / year  | Electrochemical          | 2 years              |                                   |
|                                                                             |                 | OZCO_4    | 0-50 ppm                       | 0.05 ppm               | 0.05 ppm               | < 2% / Month   |                          |                      |                                   |
|                                                                             |                 | OZCO_2    | 0-100 ppm                      | 0.1 ppm                | 0.1 ppm                | < 2% / Month   |                          |                      |                                   |
|                                                                             |                 | OZCO_3    | 0-1000 ppm                     | 0.75 ppm               | 0.75 ppm               | < 2% / Month   |                          |                      |                                   |
| Carbon Dioxide (CO <sub>2</sub> )                                           |                 | OZCO2_1*  | 0-5000 ppm                     | 1 ppm                  | 400 ppm                | ±5 ppm / Year  | Non Despersive Infrared  |                      |                                   |
| Nitric Oxide (NO)                                                           |                 | OZNO_1*   | 0-5 ppm                        | 0.001 ppm              | 0.01 ppm               | < 2% / Month   | Electrochemical          |                      |                                   |
|                                                                             |                 | OZNO_2    | 0-100 ppm                      | 0.5 ppm                | 0.5 ppm                | ±50 ppb / Year |                          |                      |                                   |
| Nitrogen Dioxide (NO <sub>2</sub> )                                         |                 | OZNO2_1*  | 0-10 ppm                       | 0.001 ppm              | 0.01 ppm               | ±20 ppb / Year |                          |                      |                                   |
|                                                                             |                 | OZNO2_2   | 0-100 ppm                      | 0.2 ppm                | 0.2 ppm                | < 2% / Month   |                          |                      |                                   |
|                                                                             |                 | OZNO2_3   | 0-500 ppm                      | 0.5 ppm                | 0.5 ppm                | < 2% / Month   |                          |                      |                                   |
| Ozone (O <sub>3</sub> )                                                     |                 | OZO3_1*   | 0-10 ppm                       | 0.001 ppm              | 0.01 ppm               | ±20 ppb / Year |                          |                      |                                   |
| Sulfur Dioxide (SO <sub>2</sub> )                                           |                 | OZSO2_1*  | 0-10 ppm                       | 0.001 ppm              | 0.01 ppm               | ±20 ppb / Year |                          |                      |                                   |
|                                                                             |                 | OZSO2_2   | 0-100 ppm                      | 0.2 ppm                | 0.2 ppm                | < 2% / Month   |                          |                      |                                   |
|                                                                             |                 | OZSO2_3   | 0-2000 ppm                     | 5 ppm                  | 5 ppm                  | < 2% / Month   |                          |                      |                                   |
| Ambient Noise                                                               |                 | OZN_1*    | Upto 140 dB                    | 1 dB                   | 0.5 dB                 | N.A.           |                          |                      | Capacitive                        |
| Temperature                                                                 |                 | OZTEMP_1* | -40 to 125°C                   | 0.01°C ppm             | -40 °C                 | N.A.           |                          |                      | Solid State Semiconductor Sensing |
| Humidity                                                                    |                 | OZHUM_1*  | 100% Rh                        | 0.10% ppm              | 0.10%                  | N.A.           |                          |                      |                                   |
| Barometric Pressure                                                         |                 | OZPRES_1* | 300-1100 hPa                   | 0.18 Pa                | 300 hPa                | N.A.           |                          |                      |                                   |
| Pyranometer Solar Radiation 300 - 1100 nm                                   | Light Intensity | OZUV_1    | Up to 1,00,000 Lux             | 1 Lux                  | 1 Lux                  | N.A.           |                          | Photoconductivity    | 3 Years                           |
|                                                                             | Visible Light   |           | Upto 5000 Lux                  | 0.1 Lux                | 0.1 Lux                | N.A.           |                          |                      |                                   |
|                                                                             | UV Radiation    |           | 0.1-100,000 uW/cm <sup>2</sup> | 0.1 uW/cm <sup>2</sup> | 0.1 uW/cm <sup>2</sup> | N.A.           |                          |                      |                                   |
|                                                                             | UV Index        |           | 0-12                           | -                      | -                      | N.A.           |                          |                      |                                   |

## External Modules



**Anemometer**  
 OZWSD\_1\*  
**Wind Speed:** 0-40 m/s  
**Wind Direction:** 0-359°  
**Working Principle:** Ultrasonic



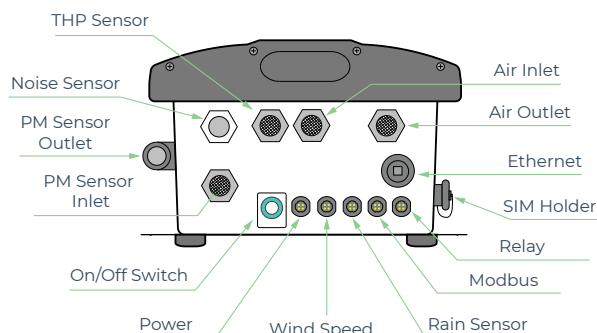
**Rain Gauge**  
 OZRAIN\_1\*  
**Resolution:** 0.25 mm  
**Working Principle:** Tipping Bucket



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

\* Indicates standard delivery timeline

# Specifications



|                |                                                                 |
|----------------|-----------------------------------------------------------------|
| Size           | 360mm (H) x 328mm (W) x 200mm (D)                               |
| Weight         | 7.2 Kg (instrument weight)                                      |
| Material       | Aluminum Magnesium Alloy, Mild-steel (With Powder Coating), FRP |
| Certifications | CE, FCC, NEMA 4X, IP66, RoHS                                    |

**Changing the way Industries monitor air quality**



Get in touch



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