# Dustroid® Pro

## Ambient Dust Monitor


Dustroid® Pro is an ambient dust monitoring system specifically developed for measuring dust levels in critical applications. It operates on the Laser Scattering working principle and is equipped with a heated inlet for dehumidifying air samples, making it ideal for dust monitoring in humid environments. Dustroid® Pro can monitor $PM_1$, $PM_{2.5}$, $PM_{10}$, and $PM_{100}$ along with temperature, humidity, and pressure.

Dustroid® Pro is best suited for construction, seaports, quarrying, thermal power plants, and cement factories. The data gathered from Dustroid® can assist in dust suppression automation, for instance, to activate suppressants at the location once the threshold is breached.

## Product Features

- Ultimate Durability
- Weather Resistant
- Compact and Lightweight
- Heated Inlet
- Real-Time Data
- Retrofit Design
- Network Agnostic
- Over-The-Air Updates

## Our Technology

Dustroid® Pro is technologically equipped and works on the Active Sampling method to count particulate matters using a highly accurate laser beam. Additionally, it has a heated inlet for dehumidification of air-sample. Its Anti-static inlet avoids loss of particulate during sampling. It offers remote calibration capabilities along with auto device firmware updates. The intelligent optical particle counter can measure data with high accuracy and transmit the same through various data communication modules like GSM, WiFi, LoRa, Satellite, etc. The data is transmitted to the Oizom® cloud in near real-time.

## Product Usecases

### Mining and Quarrying

Dust monitoring at mining sites helps to ensure a safe workplace, protect the environment, and prevent health hazards.

### Sea Ports

Dustroid® provides real-time data on dust from cargo and port operations, enabling seaports to control emissions, automate suppression, and ensure compliance in humid coastal environments.

## Sensing Parameters

| Parameter | ID | Range | Resolution | Min. Det. | Working Principle | Expected Sensor Life |
|---|---|---|---|---|---|---|
| Particulate Matter ($PM_1$, $PM_{2.5}$, $PM_{10}$, $PM_{100}$) | OZPM_1* | Upto 5000 µg/m³ for $PM_1$, $PM_{2.5}$, $PM_{10}$ ; Upto 30,000 µg/m³ for $PM_{100}$ | 0.1 µg/m³ | 1 µg/m³ | Laser Scattering | 18 Months |
| 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% | | |
| Pressure | OZPRES_1* | 300-1100 hPa | 0.18 Pa | 300 hPa | | |
| Pyranometer Solar Radiation 300 - 1100 nm | OZUV_1 | Up to 1,00,000 Lux (Light Intensity) | 1 Lux | 1 Lux | Photoconductivity | 2 Years |
| | | 0.1-100,000 uW/cm² (UV Radiation) | 0.1 uW/cm² | 0.1 uW/cm² | | |
| | | Upto 5000 Lux (Visible Light) | 0.1 Lux | 0.1 Lux | | |
| | | 0-12 (UV Index) | - | - | | |

**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 (optional)

### 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; 0.10mm
**Working Principle:** Tipping Bucket

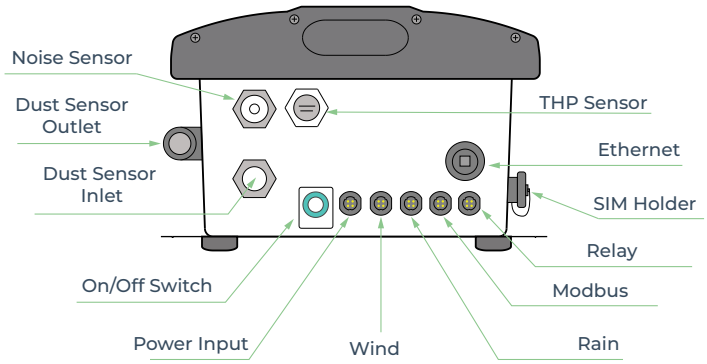
### Noise Sensor
OZN_2*
**Working Principle:** Capacitive
**Range**: Upto 140 dB

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

**Indicates standard delivery timeline.*

**NOTE:** Vibration & Class I Noise sensors are available as optional features upon specific customer request.

## Specifications




| | |
|---|---|
| **Size** | 360mm (H) x 328mm (W) x 200mm (D) |
| **Weight** | 8 Kg (instrument weight) |
| **Material** | Aluminum Magnesium Alloy, Mild-steel (With Powder Coating), FRP |
| **Certifications** | CE, NEMA 4X, IP66, RoHS, MCERTs |

**Changing the way Industries monitor air quality**

Get in touch

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