

Ambient Air Quality Monitoring System



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 etc. 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 etc.

Polludrone is an ideal choice for smart cities as well as urban infrastructure applications like roadside, campus, and airport monitoring. It is easily integrable with a Smart Pole/Intelligent Pole.

Product Features



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 Polludrone Lite air quality monitor works on proven working principles like 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.

Product Usecases



Campus Monitoring

Pollution monitoring at key locations on campus allows stakeholders to spread awareness about environmental conditions of the premises.



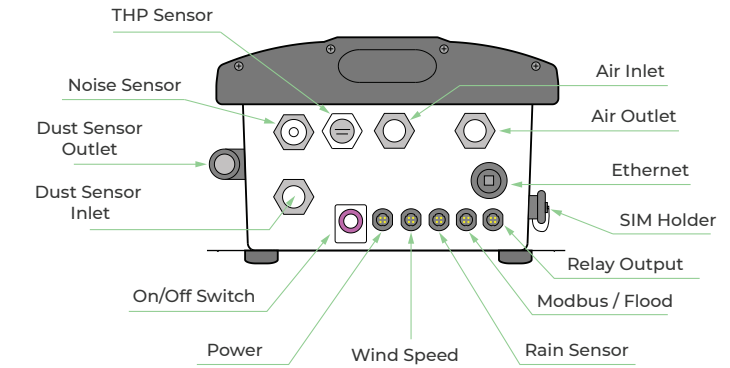
General Research

Air quality monitoring with Polludrone Lite aids academicians and researchers in analysing air quality and work on suitable solutions.

General Specifications

Size	360mm (H) x 328mm (W) x 200mm (D)
Weight	9.8 Kg
Material	Aluminum Magnesium Alloy, Mild-steel (With Powder Coating), FRP
Certifications	CE & FCC Certified, PTCRB Certified Communication Module

Connectivity Options		Specification
Wireless	GSM	Global 2G / 3G
	LoRa	868 MHz, 915 MHz
	LTE	CAT-M1
	NB-IoT	CAT-NB1
	Sigfox	868 to 869 MHz, 902 to 928 MHz
	Wifi	802.11 b/g/n
Wired	Ethernet	10BaseT/100BaseTx
	MODBUS	RS485 RTU



Technical Specifications

Avg. Power Consumption	2.5 Watt (Actual consumption depends upon the number of parameters)
Power Input Options	External 110-230V AC 50-60Hz, 40Watt Monocrystal Solar Panel
Operating Temperature	-20 °C to 60 °C

Sensing Parameters

ID	Parameter	Range	Resolution	Min. Detection	Drift	Working Principle	Measurement Principle	Sample Rate	Expected Sensor Life
OZPM_1	Suspended Particulate Matters with size less than 2.5µ (PM _{2.5})	Upto 5000 µg/m ³	0.1 µg/m ³	1 µg/m ³	N.A.	Opticle Particle Counter	Active Sampling	1 L /min	5000 hours
OZPM_2	Suspended Particulate Matters with size less than 10µ (PM ₁₀)								
OZCO2_1	Carbon Dioxide (CO ₂)	0-5000 ppm	1 ppm	400 ppm	±5 ppm / Year	NDIR	325 mL per sample	2 years	
OZCO_1	Carbon Monoxide (CO)	0-50 ppm	0.1 ppm	0.1 ppm	±100 ppb / Year	Electrochemical			
OZN_1	Ambient Noise	Upto 140 dB	1 dB	0.5 dB	N.A.	Capacitive	Passive Monitoring	N.A.	3 years
OZLL_1	Light Intensity	Up to 1,00,000 Lux	1 Lux	1 Lux	N.A.	Photo-conductivity			
OZUV_1	UV Radiation (0-12 UVI)	0.1-100,000 uW/cm ²	0.1 uW/cm ²	0.1 uW/cm ²	N.A.				
OZVLI_1	Visible Light Intensity	Up to 5000 Lux	0.1 Lux	0.1 Lux	N.A.	Solid state semi conductor sensing			
OZTEMP_1	Temperature	-40 to 125 °C	0.01°C	-40°C	N.A.				
OZHUM_1	Humidity	100% Rh	0.1%	0.1%	N.A.	Solid state semi conductor sensing	2 years		
OZPRES_1	Barometric Pressure	300-1100 hPa	0.18 Pa	300 hPa	N.A.				

External Modules

(optional)



Accurate Air Quality Monitoring And Advanced Data Analytics