

Air Quality Monitoring Solution



Product Introduction

The Airscan Air Quality Monitoring solution is a low-cost accurate system that offers the ability to build a high-density ambient air quality network that records data in real-time. It is an out of the box solution for urban air quality monitoring.

Poor air quality can have a wide range of negative impacts on our health, from respiratory and cardiovascular problems to neurological and reproductive issues, and even an increased risk of cancer. Airscan offers the perfect low cost solution for every environment.

- Low-cost air quality sensor, monitoring levels of NO₂, O₃, CO, SO₂, PM2.5 & 10, heat & humidity
- Full range of communication protocols including, 4G/5G, Wi-Fi, Ethernet/-POE, NB-IOT and LoRaWAN
- Custom heavy duty ruggedized (IP66) rated, 4mm thick, UV rated, UL94-VO fire retardant, protected from dust and capable of withstanding wet weather.
- Low power consumption with battery power management options available : 240v/110v mains option, battery power/solar option
- Easy to replace sensor unit allows unit to be moved and upgraded.
- Real-time data presented onto GUI and downloadable data



CONSTRUCTION



RAILWAYS



PUBLIC SECTOR



RESIDENTIAL



INDUSTRIAL

Airscan AQM Benefits



Optional Acoustic sound module monitoring decibel levels



Data - Online management dashboard collects and displays data in real-time, API available for 3rd party integration



Additional GPS Module can be added for the powered version



Can include optional Journey Time sensors for monitoring traffic congestion, average journey time and speed



Remote software enables units to be accessed for software updates and troubleshooting



Expansion options include variety of addition sensors including NO, H₂S, CO₂, NH₃, VOCs



Security – All data end to end encrypted



Data sent to cloud servers and displayed on Airscan Dashboard in real-time



GSM 4G/5G, NB-IOT, LoRaWAN, WiFi and Ethernet communications available

Sensor Specification

Category	Details
Temperature	-45 to 125 deg C ± 0.2 deg C
Humidity	(0 to 100%) $\pm 2\%$
Particle Matter (PM1.0 PM2.5 PM4 PM10)	
Particle detection size range*	Mass concentration: PM1.0, PM2.5, PM4 & PM10 Number concentration: PM0.5, PM1.0, PM4 & PM10 0.3 μ m
Mass concentration accuracy**	$\pm 10 \mu\text{g}/\text{m}^3$ @ 0 to 100 $\mu\text{g}/\text{m}^3$ $\pm 10 \mu\text{g}/\text{m}^3$ @ 100 to 1000 $\mu\text{g}/\text{m}^3$
Mass concentration range	1 to 1000 $\mu\text{g}/\text{m}^3$

Electrochemical Sensor options:

NO ₂	0 -5,000ppm
SO ₂	0-10,0-00ppb
CO	0-10,0-00ppb
O ₃	0-2,000ppb
CO ₂	0-5,000ppm
NO	0-5,000ppb
H ₂ S	0-2,000ppm
NH ₃	0-50ppm
VOCs	0-3,000ppm

*PM_x defines particles with a size smaller than "x" micrometers (e.g., PM2.5 = particles smaller than 2.5 μ m).

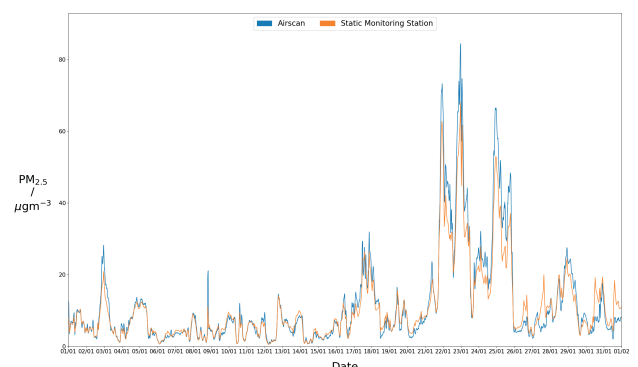
**Specified for PM2.5 at 25 °C using potassium chloride salt particles and the TSI DustTrak™ DRX Aerosol Monitor 8533 as a reference.

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Physical Specification

Airscan Hardware	Details
Environment Operating range:	-18 to 50 Centigrade
Power Draw	<350 mA
Dimensions	19.5cm x 16cm
Weight	0.75kg
Sensors are shipped fully calibrated and baselined using a local DEFRA monitoring station as a reference.	
Airscan Electrochemical sensors have a life span of 24mths when they will need to be replaced.	
Particulate Matter sensor has a life span of >5 years	

Airscan at Static Monitoring Station PM_{2.5} / μgm^{-3}
01/01/2023 - 31/01/2023



Data taken from Airscan unit co-located at the DEFRA Watford static monitoring station.

