AIR QUALITY

SENSOR BASED MONITORS FOR AMBIENT AIR POLLUTION

FOR SALE OR HIRE

CAMPBELL ASSOCIATES
SOUND, VIBRATION & AIR SOLUTIONS

aeroqual™

INDUSTRY LEADING AIR QUALITY MONITORS FROM AEROQUAL

AQY MICRO AIR QUALITY MONITORING SYSTEM

This low cost air quality monitor measures Particulate Matter ($PM_{2.5}$),(PM_{10}), Ozone(O_3) and Nitrogen Dioxide(NO_2)

The AQY system gives you scientifically credible air pollutant data relevant to where you live and work. Designed to be used as a single device or deployed in a network of monitors, it is lightweight and easy to mount and has low-maintenance, long life sensors.

Key Features include, active fan-sampling, Aeroqual's GSS ozone sensor, interference-free NO_2 measurement and auto correction of humidity effects on $PM_{2.5}$ measurements. These features and more give fantastic price performance.

Applications:

- Smart City Grid Monitoring
- Roadside Traffic Monitoring
- Community Exposure Monitoring
- Health & Safety of Students/Workers

DUST SENTRY/PROFILER

UPGRADE TO INCLUDE NO_2

- PLUG & PLAY
- MCERTS CERTIFIED
- ROBUST & PORTABLE
- SMS & EMAIL ALERTS
- ACCESS DATA LIVE VIA THE SONITUS CLOUD

PORTABLE AIR QUALITY MONITOR

- LONG LIFE BATTERY
- OVER 28 DIFFERENT SENSORS
- LIGHTWEIGHT & PORTABLE
- SIMPLE ONE USB CABLE DOWNLOAD

AQS 1 MINI AIR QUALITY MONITORING STATION

Near reference real-time monitor for particulate fractions plus O_3 /NO_2 /VOC.

Designed for those who need to monitor and manage specific outdoor dust and particulates, and gases continuously and in real-time.

The AQS 1 delivers affordable and defensible measurement of PM_{10}, $PM_{2.5}$, PM_1, TSP, and up to three gases, all simultaneously.

Applications:

- Construction Dust & Emissions
- Roadside Traffic Monitoring
- Community Exposure Monitoring
- Air Quality Model Validation

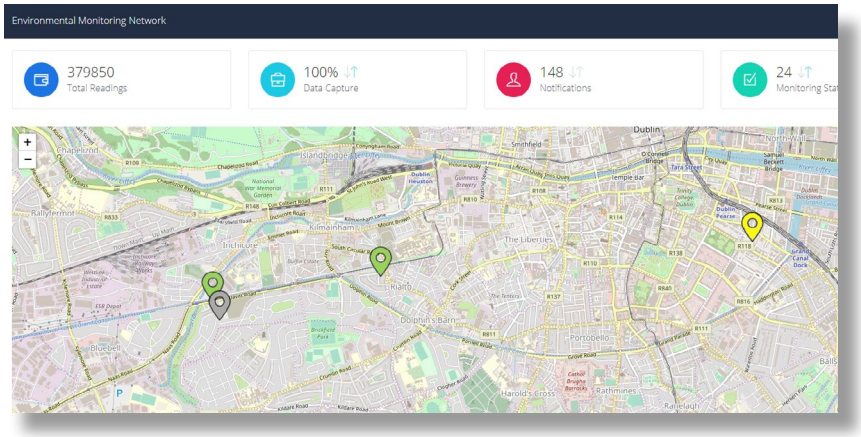
COMMUNITY PORTAL

Alongside Aeroqual's range of air quality monitors is the Community Portal, a web-based platform for communities to view their air quality data.

Whether a community has one system or several hundred, via the portal users can view the daily measurements of air pollutants in the locations they live and work.

Key Features:

- Public Url Access
- Air Quality Daily Index Rating
- Easy to Understand Data Display
- Real Time & Historical Data



HOW DO AEROQUAL OBTAIN ACCURATE RESULTS FROM THEIR SENSOR SYSTEMS?

Electrochemical and solid-state sensors to detect Nitrogen Dioxide (NO_2) at ppb levels have been available for many years, but: THE PROBLEM has always been their near 100% cross response to Ozone (O_3). This is not helped by the way O_3 and NO_2 mirror each other, with one dropping as the other rises. The result is a value which bears little relation to either O_3 or NO_2. One way around this is to measure O_3 and subtract its contribution from the combined value. However, most O_3 sensors have a near 100% response to NO_2. The relative difference in response to the two gases by two sensors has been used to estimate both, but this requires complex web-based algorithms and results can be variable. Recently some sensors have been developed which use an O_3 "filter" above the sensor to remove O_3 and its cross response. However, this has been shown to deteriorate with time, so that their correlation to reference analysers depreciates rapidly as the O_3 cross response of the sensor rises. It also reduces the response to NO_2; especially if a thicker layer is applied to reduce deterioration.

THE SOLUTION; use an O_3 sensor which measures O_3 without NO_2 cross-response. This is achieved by Aeroqual's unique ABC (Automatic Baseline Correction) technology and patented GSS (Gas Sensitive Semiconductor) sensor. Allowing it to have a long and stable calibration term. We can measure the sum of the NO_2 and O_3 concentrations with one sensor and O_3 alone with another. Accurate NO_2 values can be calculated live, within the instrument and without the need for web-based algorithms. As a result, studies have repeatedly shown correlation to bigger and more expensive reference analysers with an R2 of >0.9 for the AQY and >0.95 for the AQS1.

Peter Fleming - Campbell Associates - Air Quality Specialist