



Air quality measurement that's smart and accurate

A 'low cost' air quality monitoring solution, the AQY 1 gives you air quality information that's scientifically credible, and relevant to where you live, work and play. Set up as a single device or deployed in a network of monitors, the AQY 1 reports key urban pollutants in real-time. Accurate air quality data passes through a flexible communications platform and is available to view through our software or yours. Throughout you will be supported by a team of air quality experts who are leading innovators in the field.

What is it?

- A small weather-proofed monitor that measures and reports key urban air pollutants and environmental parameters in real-time
- A flexible communications platform that transfers real-time data wirelessly, and gives you access through an API
- A web interface accessed via browser on your phone, tablet or PC, where you can see all your data in one place and set alerts on parameters of concern
- A remote technical support service that maximises the useful life of the sensors while keeping high quality data flowing

What does it measure?



Ozone



Particulate Matter
(PM_{2.5})



Nitrogen
Dioxide



Temperature
Humidity & Dewpoint

Who is it for?

- **Smart cities** who want air quality and environmental data to show that their city is an attractive place to live, work and invest in
- **Air quality professionals** who need a real-time alternative to diffusion tubes and samplers, or a more affordable alternative to analyzers
- **Community groups** who need a cost-effective way to gather scientifically credible air quality data that will be treated with respect by their stakeholders
- **Educators** who want students to learn about air pollution in a way that supports STEM subjects and promotes environmental awareness
- **Health and safety managers** who need to demonstrate that they are providing a safe environment for the people in their care
- **Researchers** who want to collect as much scientifically robust data as possible on a limited budget

AQY 1 specifications

PARTICLE SENSING	SIZES	RANGE	ACCURACY	LOWER DETECTABLE LIMIT (2σ)
Laser scattering	PM _{2.5}	0 to 1000 µg/m ³	±(10 µg/m ³ + 5% of reading)	1 µg/m ³

GAS SENSING	RANGE	RESOLUTION	NOISE	LOWER DETECTION LIMIT	PRECISION	LINEARITY (% OF FS)	DRIFT 24 HOUR
			ZERO; SPAN % OF READING				ZERO; SPAN % OF FS
Ozone (O ₃)	0-200 ppb	0.1 ppb	1 ppb 2%	1 ppb	4% of reading or 4 ppb	3%	2 ppb; 1%
Nitrogen Dioxide (NO ₂)	0-500 ppb	0.1 ppb	2 ppb 4%	2 ppb	8% of reading or 8 ppb	6%	4 ppb; 1%

SYSTEM SPECIFICATIONS	
Control System	Single board computer, 1.2 GHz quad-core, 1 GB SDRAM, 16 GB SDHC Storage, Debian Operating System
Communications	Standard: WIFI, 3/3.5/4G cellular modem (4G US networks only)
Software	<p>Aeroqual Connect: instrument operating system</p> <p>Aeroqual Cloud: instrument monitoring, management and technical support via secure cloud servers, accessed via web browser (IE, Firefox, Chrome, Safari).</p> <ul style="list-style-type: none"> • Cloud standard features; configuration, calibration, diagnostics, remote technical support. • Cloud optional features; text (SMS) and email alerts, 3rd party sensor measurements, full data visualization with charts, wind and pollution roses, data reporting with auto data export via FTP and API, full instrument event journal capture.
Data logging	Unlimited Aeroqual Cloud data storage, 32 GB Memory stick backup.
Averaging period	1 min, 5 min, 10 min, 15 min, 20 min, 30 min, 1 hr, 2 hr, 4 hr, 8 hr, 12 hr, 24 hr
Power Requirements	Minimum User Supplied: 12 V DC, 24 W recommended (11-32 V DC range max, 150 mVp-p ripple and noise max) Note: A user supplied power supply must be compliant with local regulations. Optional: 12 V DC plug pack (90 to 260 V AC input) 24 W (rated for -10 °C to 40 °C), 5 m cable
Enclosure	Weather proof IP33 with solar shield
PM Sampling System	Inlet: 4cm anti-static inlet Sampling: 5 Vdc fan
Gas Sampling System	Inlet: PTFE, stainless steel Sampling: 5 Vdc fan
Dimensions	215 H x 170 W x 125 D mm (including solar shield armour & mounting brackets)
Weight	<1 kg
Environmental operating range	-10°C to +40°C
Mounting	Mounting bracket included for pole, tripod or wall
Life expectancy	System: 5 years Sensors: -12 months based on 0-50 µg/m ³ annual average PM ₁₀
Other measurements	Temperature: -40°C to 125°C; Relative Humidity: 0 to 100%; Dewpoint: -30°C to 50°C

