AQY R

Specification Sheet

Air quality network monitor

The AQY R is designed for air monitoring networks of all sizes. Typical applications include community exposure studies, roadside and perimeter monitoring, and smart city grid networks.

It pairs with Aeroqual Unify, our seamlessly integrated package of monitors, software, and services that delivers credible and useful hyperlocal air quality data, without the high operating costs.

What is it?

- Delivers continuous real-time measurement and part-per-billion (ppb) detection of key criteria pollutants, temperature, relative humidity and dew point
- Auto-corrects for cross-interferences and sensor drift
- 100% data capture due to on-board storage and data transmission to Aeroqual Cloud every minute
- Access real-time data and remote technical support and servicing through Aeroqual Cloud
- Couple with Aeroqual Unify for an integrated air quality monitoring network that delivers hyperlocal air quality data.

What can it measure?

PM_{10} $PM_{2.5}$ NO_2 O_3

Who is it for?

- Government authorities who have clean air initiatives and need to deliver credible and hyperlocal air quality data through:
  - Community exposure studies
  - Roadside and perimeter monitoring
  - Smart city grid networks
- Community organizations who are influencing positive change through air quality monitoring projects
- Industrial organizations who need to manage particulates and gases from site activities, within regulatory or permitted limits:
  - Construction and remediation
  - Quarry and mine operators
  - Port and bulk handling terminals

Specifications | AQY R

Particle Sensing	Sizes	Range	Accuracy	Lower Detectable Limit (2σ)
Laser scattering	$PM_{2.5}$	0 to 1000 µg/m^3	<±(10 µg/m3 + 5% of reading)	<1 µg/m^3
	PM_{10}[1]	0 to 1000 µg/m^3	<±(10 µg/m3 + 10% of reading)	<1 µg/m^3

[1] PM_{10} is only available to Aeroqual pre-approved projects

Gas Sensing	Range (ppb)	Resolution / ppb	Noise Zero; Span % of reading	Lower Detection Limit / ppb	Precision	Linearity (% of FS)	Drift 24 hour Zero; Span % of FS
Ozone (O_3)	0-200	0.1	<1 <2%	1	<4% of reading or 4 ppb	<3%	<2; 1%
Nitrogen dioxide (NO_2)	0-500	0.1	<2 <4%	2	<8% of reading or 8 ppb	<6%	<4; 1%

System specifications	
Control system	Advantech embedded PC (Intel Celeron Dual Core, 4GB RAM, 30GB SSD) Linux Operating System
Communications	WiFi, CAT6 Cellular modem that supports 2G/3G/4G cellular connectivity, External LTE MIMO combination antenna
Software	Talk to our sales team to learn more about Aeroqual Unify, our seamlessly integrated package of monitors, software, and services for air quality sensor networks.
Data logging	30GB SSD (> 5 years data storage)
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	Built in DC/DC Converter with battery voltage monitoring | Regulated 12 VDC 16 W (standard); 110-260 VAC 14.5W (optional)[1]
Enclosure	Weather proof IP33 with solar shield
PM sampling system	Inlet: 4cm anti-static inlet | Sampling: 5V DC fan
Gas Sampling System	Inlet: PTFE, stainless steel | Sampling: 5V DC fan
Dimensions	350H x 225W x 265D mm (including solar shield armour & mounting brackets)
Weight	< 5 kg
Operating range	-10 °C to +40 °C
Mounting	Mounting bracket included for pole, tripod or wall
Life expectancy	System: 5 years | Sensors: ~ 12months based on 0-50 µg/m3 annual average PM_{10}

[1] 60W 12V plug pack can be supplied as an optional extra.