



AQM 60

Air Quality Station



AQM 60 with Premium TMS, Solar Radiation Shields, Particle Monitor and external USB com port

Low-Cost and Compact Air Quality Monitoring

AQM 60 Air Quality Stations deliver precise measurement data in real time for a wide range of air quality criteria in a compact and modular package. Measurable parameters include Ozone (O₃), Nitrogen Dioxide (NO₂), Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Carbon Dioxide (CO₂), Sulphur Dioxide (SO₂), Hydrogen Sulphide (H₂S), Volatile Organic Compounds (VOC), Non-methane Hydrocarbons (NMHC), and Particulate Matter by mass (PM₁₀ and PM_{2.5}) or size distribution (0.3 to 10 µm 8-channels).

Aeroqual's analytic sensor technology affords high performance within a flexible platform. The modular design of the AQM 60 also facilitates cost-effective service. External sensors can be integrated that measure temperature, humidity, wind speed, wind direction, environmental noise, solar radiation and other meteorological parameters. Data is stored on an SD Card and remotely accessible in real time via GSM modem, low power radio, Ethernet or other communications.

The AQM 60 Air Quality Station meets the global trend for real time measurement of air quality in the micro-environment. This is driven by the need to answer important questions in localized areas of human habitation (e.g. streets, roads, urban canyons, schools, shopping centers, local communities and industrial perimeters) using newer, smaller, lower cost, intelligent measurement technology linked by inexpensive network communication systems.

Features

- Analytic GSS Technology
- Multiple gas measurements
- Real time data acquisition
- PC software included
- Remote site operation
- Pole or wall installation
- Compact and modular
- Multi-point factory calibration
- Zero and Span calibration user-facility
- Temperature and humidity sensors
- Particle monitoring PM_{2.5} PM₁₀ TSP *
- Wind speed and direction sensors *
- Noise and meteorological sensors *
- GSM | RF | Ethernet communication *

* Optional features

Applications

- Ecological Mobility Management – EMM (e.g. road, cycle, pedestrian air quality)
- Near roadside monitoring
- Urban air quality measurement
- Perimeter (fence line) and point source emissions monitoring
- Low cost air quality networks to support reference AAQM stations
- Long term air quality trend analysis
- Environmental Impact Assessments - EIA
- Local community exposure: residential, schools, hospitals
- Construction site monitoring
- Park and forest monitoring
- Indoor air quality monitoring



AQM 60 Specifications

Specific Gas Modules	Calibrated Range	Minimum Detection Limit	Accuracy of Factory Calibration	Precision	Resolution
Ozone O ₃ (GSS) AQMUZ	0-0.15 ppm	0.001 ppm	<±0.005 ppm	0.002 ppm	0.001 ppm
Ozone O ₃ (GSS) AQMLZ	0-0.5 ppm	0.001 ppm	<±0.008 0-0.1 ppm; <±10% 0.1-0.5 ppm	0.005 ppm	0.001 ppm
Nitrogen Dioxide NO ₂ (GSS) AQMNW	0-0.2 ppm	0.001 ppm	<±0.010 0-0.1 ppm; <±10% 0.1-0.2 ppm	0.005 ppm	0.001 ppm
Nitrogen Oxides NO _x (NO + NO ₂) (GSS) AQMNX	0-0.5 ppm	0.001 ppm	<±0.010 0-0.1 ppm; <±10% 0.1-0.5 ppm	0.005 ppm	0.001 ppm
Carbon Monoxide CO (GSS) AQMCN	0-25 ppm	0.1 ppm	<±1 0-10 ppm; <±10% 10-25 ppm	0.2 ppm	0.1 ppm
Carbon Dioxide CO ₂ (NDIR) AQMCD	0-2000 ppm	6 ppm	<40 ppm + 3% of reading	10 ppm	1 ppm
Hydrogen Sulphide H ₂ S (GSE) AQMHS	0-10 ppm	0.01 ppm	<±0.05 0-0.5 ppm, <±10% 0.5-10 ppm	0.03 ppm	0.01 ppm
Sulphur Dioxide SO ₂ (GSE) AQMSO	0-10 ppm	0.01 ppm	<±0.05 0-0.5 ppm, <±10% 0.5-10 ppm	0.03 ppm	0.01 ppm

NB: Gas concentration displays in ppm on the instrument and is available in ppm or mg/m³ via the supplied PC software

Non-specific Gas Modules	Calibrated Range	Minimum Detection Limit	Accuracy of Factory Calibration	Precision	Resolution
Volatile Organic Compounds (PID) AQMPD	0-20 ppm	0.01 ppm	<±10%	0.02 ppm	0.01 ppm
Volatile Organic Compounds (GSS) AQMVM	0-25 ppm	0.1 ppm	≤±10%	0.2 ppm	0.1 ppm
Non-methane Hydrocarbon (GSS) AQMVN	0-25 ppm	0.1 ppm	≤±10%	0.2 ppm	0.1 ppm

NB: Gas concentration displays in ppm on the instrument and is available in ppm or mg/m³ via the supplied PC software

Particle Monitor: PM _{2.5} PM ₁₀ TSP	Range	Sensitivity	Accuracy	Precision	Resolution
Light scattering laser diode optical engine	0-2000 µg/m ³	1 µg/m ³	8% of NIOSH 0600	3 µg/m ³	1 µg/m ³

Particulate Profiler: 8-channel	Range	Particle Sizes	Accuracy	Precision	Resolution
Sizes and counts particles in 8 digital bins	0-100000 Particles/L	0.3-10 µm (8)	±10% to calibration aerosol	0.3 µm	1 Particles/L

Wind Speed and Direction Sensor	WS Range	WD Range	Accuracy WS WD	WS Resolution	WD Resolution
Sonic or mechanical options	0-160 Km/h	0-360°	±3% WS ±3° WD	0.1 m/s	1°

Temperature and Humidity Sensor	Temperature Range	Humidity Range	Accuracy T RH @ 25 °C	T Resolution	RH Resolution
CMOS technology	-20 °C to +100 °C	0-100% RH	±0.3 °C ±2% RH	0.01 °C	0.1% RH

Controller Module	Communication	Data Storage	Data Sampling Rate	Display	Diagnostics
Single-board computer (SBC)	RS 232 (real-time)	2 GB SD card	2-255 min. (programmable)	4-line x 20-char.	Remote access

Gas Treatment Module	Sampling Pump	Zero Scrubber	Zero Calibration	Scrubber Filter	Inlet Filter
Sampling and distribution system	Diaphragm	Internal	Auto programmable	Replaceable	Replaceable

Thermal Management Systems	TMS option configured to environment:
Standard TMS thermoelectric cooler and active heating	suitable for -20 to +40 °C
Premium TMP compressor AC and active heating	suitable for -20 to +50 °C
Extreme Low TML compressor AC and heating	suitable for -40 to +50 °C
Extreme High TMH high-grade compressor AC	suitable for -10 to +60 °C

Environmental Operating Range	-40 to +60 °C (see above)
	10 to 90% RH (non condensing)

Power Requirements	12VDC 100-240VAC power module
	(power consumption subject to configuration)

Maintenance Checks Routine	3 6 12 months (site dependent)
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Standard Enclosure	Fibre reinforced PC IP66 NEMA4
	600 x 400 x 230 mm (excludes TMS and shields)

Weight	10-40 Kg (subject to configuration)
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Remote Communication Options	GSM GPRS RF modems
	Ethernet others on request

Other Sensor Options	Noise Meteorological Solar Radiation
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Enclosure Accessories	Solar radiation shields Pole mount kits
	Metal enclosures Security cages

Safety and Compliance Approvals	Power Supply: Safety - EMC Conformity
	EN55015, EN55022 Class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, ENV50204, EN61547 EN61347-1, EN61347-2-13; UL1012, UL60950-1; TUV EN60950-1
	Gas Modules: EMC Conformity
	Part 15 FCC Rules; EMC 2004/108/EC; EN 61000-6-1:2001, EN 61000-6-3:2001
	Particle Monitor and Particulate Profiler
	Class 1 laser; IEC 60825-1:1998 Directive 72/23/EEC; EN 61010-1; EN 60825-1:1996); US 21 CFR 1040.10
	GSM Modem
	CE 0681; Group 3 FAX support Class 1/2



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