AQM 65

Specification Sheet

Near reference real-time monitor for multiple gases plus particulate fractions

The AQM 65 is a fully integrated, temperature controlled air quality monitoring station that delivers 'near reference' levels of performance in real-time for multiple gases, particulates and environmental parameters.

Continuously measure air pollutants including O_3, NO_2, NO_x, CO, SO_2, VOC, H_2S, CO_2, CH_4, TSP, PM_{10}, $PM_{2.5}$, PM_1, noise and meteorological parameters.

What is it?

- Proven long term performance in extreme climates with purpose-built enclosure and advanced temperature and humidity control

- Reduce site visits using two-way communications- remotely troubleshoot, upgrade software, change settings, and calibrate

- Plug in all your devices – noise, weather, reference monitors – to the AQM 65 and view data in one software dashboard

- Enables automatic scheduling of calibrations with optional integrated calibration system

- Respond in real-time thanks to configurable email / SMS alerts

What can it measure?

- Multiple gases, dust fractions, wind, weather and noise

TSP PM_{10} $PM_{2.5}$ PM_1 CO SO_2

H_2S CO_2 CH_4 O_3 NO_2 NO_x

VOC dB RH

Who is it for?

- Industrial operators who need a cost-effective and robust solution to manage and control dust and gas emissions from site activities within regulatory or permitted limits:

    - Industrial perimeter monitoring

    - Oil and gas facilities

    - Quarry and mine operators

    - Port and bulk handling authorities

    - Waste management sites

- Regulatory authorities who need to fill the gaps in the regulatory monitoring networks

- Environmental consultants and researchers who want defensible data without the usual time and hassle of air monitoring projects

    - Research and consultancy projects

    - Environmental impact assessments

    - Short term hot spot monitoring

    - Roadside air monitoring

Specifications | AQM 65

Gas module	Range	Display Resolution	Noise Zero; Span % of reading	Lower Detection Limit (2σ)	Precision	Linearity (% of FS)	Drift 24 hour Zero; Span % of FS
Ozone O_3	0-500 ppb	0.1 ppb	<1 ppb; 1%	<1 ppb	2% of reading or 2 ppb	1%	1 ppb; 0.2%
Nitrogen dioxide NO_2	0-500 ppb	0.1 ppb	<1 ppb; 1%	<1 ppb	2% of reading or 2 ppb	1.5%	1 ppb; 0.2%
Carbon Monoxide CO	0-25 ppm	0.001 ppm	0.02 ppm; 1%	0.04 ppm	3% of reading or 0.05 ppm	1%	0.14 ppm; 2%
Sulfur Dioxide SO_2	0-10,000 ppb	0.1 ppb	1 ppb; 0.02%	2 ppb	0.14% of reading	0.6%	1 ppb; 0.3%
Nitrogen Oxides NO_X	0-500 ppb	0.1 ppb	<1 ppb; 1%	1 ppb	3% of reading or 3 ppb	1%	1 ppb; 0.2%
Hydrogen Sulfide H_2S	0-10,000 ppb	0.1 ppb	1 ppb; 0.1%	2 ppb	1% of reading or 3 ppb	0.5%	<1 ppb; <0.5%
Carbon Dioxide CO_2	0-2000 ppm	1 ppm	5 ppm; 1%	10 ppm	3% of reading or 10 ppm	2%	1 ppm; 0.6%
VOC (Low range)	0-500 ppb	0.1 ppb	<1 ppb 1%	<1 ppb	2% of reading or 1 ppb	1%	1 ppb; 1%
VOC (High range)	0-30 ppm	0.01 ppm	<0.1 ppm; 1%	<0.1 ppm	2% of reading or 0.05 ppm	2%	0.1 ppm; 1%
Methane CH_4	0-100 ppm	0.01 ppm	0.02 ppm; 0.3%	0.04 ppm	0.4% of reading	<1%	0.04ppm; 1%

Particle module	Sizes	Range	Accuracy	Display Resolution	Lower Detectable Limit (2σ)
Nephelometer	PM_1, $PM_{2.5}$, PM_{10} OR TSP	0 to 60,000 µg/m³	±(2 µg/m³ + 5% of reading)	0.1 µg/m³	<1 µg/m³
Profiler (Optical Particle Counter)	PM_1, $PM_{2.5}$, PM_{10} AND TSP	PM_1 200 µg/m³ $PM_{2.5}$ 2000 µg/m³ PM_{10} 5000 µg/m³ TSP 5000 µg/m³	±(5 µg/m³ + 15% of reading)	0.1 µg/m³	<1 µg/m³
	Optional Particulate Counts: 0.3, 0.5, 0.7, 1.0, 2.0, 3.0, 5.0, 10 microns (counts range: 0-100,000 counts/L)				

System Specifications

Control system	Embedded fanless PC (Intel Celeron® N3350, 1.1 GHz, dual core, 4 GB RAM, 32 GB SSD hard drive), Debian Linux Operating System
Communications[1]	Standard: WIFI, Ethernet (LAN) Optional modem: Cellular IP 3G or 4G LTE
Software	Talk to our sales team to learn more about Aeroqual Cloud plans.
Data logging	32 GB Hard Drive (> 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[2]	90 - 264 Vac, 47 - 63 Hz Typical draw: 100 W (depends on configuration and ambient temperature)
Enclosure	Outer: IP65 rated aluminum skin with solar reflective coating Inner: 40 - 50 mm (1.6 - 2") layer of cross-linked PE foam insulation. Built in temperature and relative humidity sensor.
Gas sampling system	Inlet: Teflon, glass-coated stainless-steel Pump: 12 V brushless DC diaphragm
PM sampling system	Inlet: Omni-directional 36 cm (14.1 inches) heated inlet; Optional sharp cut cyclones for PM_{10}, $PM_{2.5}$ or PM_1 size selection Pump: 12 V brushless DC diaphragm
Dimensions[3]	Standard: 1310 H x 510 W x 280 D mm (51⅝" H x 20" W x 11" D)
Weight[4]	< 30 kg
Operating range	-35 °C to +50 °C (-31 °F to 122 °F)
Mounting	Pole, tripod and wall mounting brackets included
47mm sample filter[5]	47 mm filter for particle loading analysis
Factory integrated sensors[5]	Gill WindSonic (ultrasonic wind sensor), Vaisala WXT536 (weather transmitter), Met One MSO (weather transmitter), Cirrus MK427 Class 1 (noise sensor), Novalynx Pyranometer (solar radiation)
Compatible tested sensors	BSWA 308 (sound level meter), Met-One BC-1060 (black carbon monitor), Met-One E-BAM PLUS (Beta-Attenuation Mass Monitor)

Compliance

In conformity with EC Directives 2014/30/EU and 2014/35/EU; FCC 47 CFR Part 15; RoHS 3 (EU2015/863), REACH

Certified Modules	MCERTS	1466 Approved
AQM65 PM_{10} Nephelometer	Yes - Sira MC160289/02	No

[1] 4G LTE not available in all markets
[2,4] Configuration used for power and weight calculations: base unit, nephelometer, PM_{10} sharp cut, modem, heater on
[3] Dimensions are for enclosure. PM sampling inlet with cyclone adds 360 mm (14.17") to total height
[5] Optional

AQM65 PM_{10}

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