

AQLite Specifications

General Specifications

AQLite Standard (FEM ozone plus sensor package)

Power Consumption: 15 watt

Dimensions: 10.12 x 8.12 x 4.38 in (25.7 x 20.6 x 11.1 cm)

Weight: 7 lb (3.2 kg)

Operating Temperature Range: 0 to 50 °C for ozone

Measurement Interval: 2 s

Data Outputs: Cellular Upload to Cloud, RS232, Bluetooth, microSD data card

AQLite Basic (FEM ozone)

Power Consumption: < 7 watt

Dimensions: 10.12 x 8.12 x 4.38 in (25.7 x 20.6 x 11.1 cm)

Weight: ~6 lb (2.7 kg)

Operating Temperature Range: 0 to 50 °C for ozone

Measurement Interval: 2 s

Data Outputs: RS232



Instrument/Sensor Specifications (per manufacturer)

Ozone (O₃)

Instrument: 2B Tech Model 108-L Ozone Monitor (FEM)

Measurement Principle: UV absorption at 254 nm, single beam

Measurement Range: 0-100,000 ppb (0-100 ppm)

Precision: Greater of 1.5 ppb or 2% of Reading

Resolution: 0.1 ppb

Measurement Interval: 2 s

Response Time: < 20 s

Flow Rate: Minimum required: 0.6 L/min; Maximum: 1.5 L/min

Sensitivity Drift: < 1%/day, < 3%/year

Baseline Drift: < 3ppb/day, < 6 ppb/year

Carbon Dioxide (CO₂)

Sensor: Telaire T6713 (NDIR)

Measurement Range: 0-5000 ppm

Accuracy: 400-5000 ppm: ± 30 ppm, ± 3% of reading

Response Time: < 3 min for 90% step change

Particulate Matter (PM₁, PM_{2.5})

Sensor: Plantower PMS7003 (Laser Scattering)

Particle Size Range: 0.3-10 μm

Mass Concentration Range: 0-999 μg/m³

Count Accuracy: 50% @ 0.3 μm, 98% @ ≥ 0.5μm

Response Time: < 10 s

Carbon Monoxide (CO)

Sensor: Alphasense CO-A4 (Electrochemical)

Measurement Range: 0-500 ppm

Precision: contact 2B Tech for information

Response Time: < 30 s for a 10-ppm step change

Total VOCs

Sensor: ION Science Mini-PID2 HS (Photoionization)

Measurement Range: 0 to 3 ppm

Minimum Detection Limit: 0.5 ppb

Response Time: < 12 s

Sensitivity: > 600 mV per ppm

Pressure

Sensor: Bosch BME680

Measurement Range: 300 to 1100 hPa

Accuracy: ± 1.0 hPa

Resolution: 0.18 Pa

Long-Term Stability: ±1.0 hPa per year

AQLite Instrument Temperature and Relative Humidity

Sensor: Honeywell HIH8120 (Platinum RTD / Capacitive)

Measurement Range: 0-65 °C / 0 to 100 %RH

Accuracy: ± 0.5 °C from 5 °C to 50 °C / ± 2 %RH

Response Time (RH): 8 s

* AQLite-Standard: The instrument also outputs values for PM₁₀, but PM₁₀ is not accurately measured by sensors because of the difficulty of sampling large particles without loss due to impaction.

** AQLite-Standard: The sensor package includes CO₂, PM₁, PM_{2.5}, T, P, and RH, and can also include total VOCs, CO.