

B7301-AQM-1 and B7301-AQM-2 Air Quality Monitors

PM, CO₂, Temperature, RH, and TVOC



The Airy Technology® B7301-AQM1 and B7301-AQM2 Air Quality Monitors measure particles from 0.3 to 25.0 µm at a flow rate of 0.1 CFM (2.83 LPM). These user-friendly instruments display up to six particle size channels, temperature, relative humidity, and CO₂ (AQM1) or CO₂ + TVOC (AQM2).

Designed for research, industrial hygiene, indoor air quality, and cleanroom applications, the B7000 Series offers exceptional versatility. From the cleanest labs to the dirtiest worksites, confidently monitor any environment thanks to the industry's highest particle concentration limits.

With 10 hours of continuous battery operation and up to 100 hours using our patented intelligent battery management system, these instruments are built for long-lasting performance on a single charge. The Airy Technology® Real-Time Monitoring technology enables dynamic particle investigations, displaying data in particles per second to help users quickly locate contamination sources in controlled environments.

Data can be managed directly on the device or through the free Airy Technology® software. Export raw data in .CSV format or generate compliant reports (ISO 14644-1, EU GMP Annex 1, or FS 209E). Remote diagnostics are also available from anywhere with an internet connection. The B7000 Series can function as a fully portable, battery-operated solution or be easily integrated into building automation and cleanroom management systems with multiple communication options.

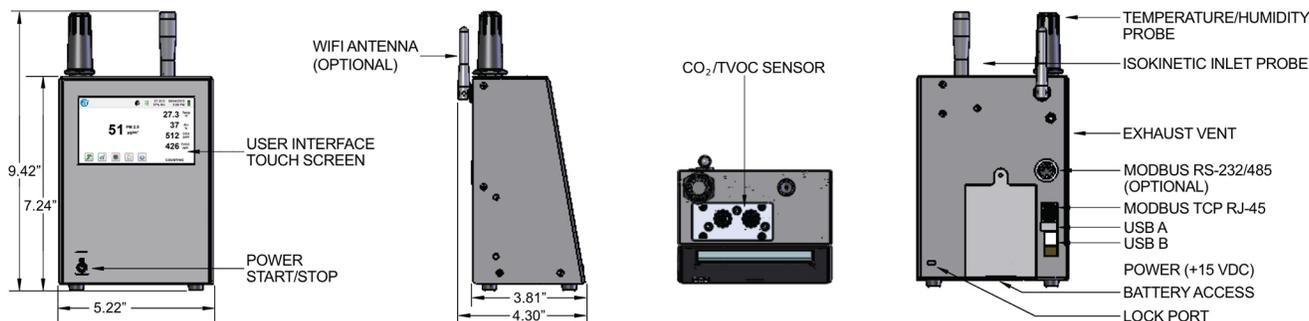
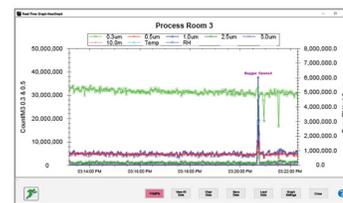
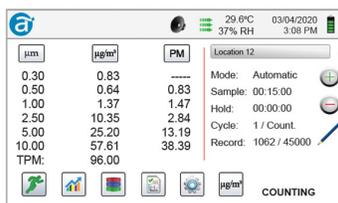
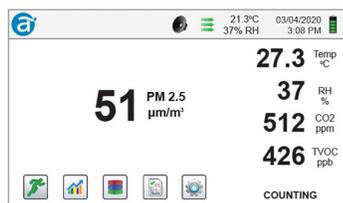
Features and Benefits

- Measures up to six particle size channels simultaneously
- Approximates mass concentration in µg/m³ with density and refractive index corrections
- User selectable PM sizes from 0.3 µm to 10 µm including TPM of up to 25 µm
- Long life laser diode technology for reliable performance
- Large, icon-driven color touchscreen display for easy operation
- Includes temperature and relative humidity probe
- Stores up to 45,000 sample records, 1,000 locations, and 50 sampling recipes
- Annotation feature allows users to save 32-character notes with sample records
- Ethernet, USB, RS485, RS232, and wireless (802.11b/g) communication options
- Troubleshoot and diagnose issues remotely from anywhere with an internet connection
- Generate and export reports for ISO 14644-1, EU GMP Annex 1, and FS 209E
- Built-in audible and visual alarms for real-time alerts
- Complies with ISO 21501-4 and JIS B9921 standards
- Seamlessly integrates into facility monitoring and building automation systems
- Easy to clean, lightweight stainless steel enclosure with minimal particle traps
- 2 year Limited Warranty (Extended and Lifetime warranties available)

Specifications

Model	B7301-AQM1 and B7301-AQM2
Size Range	0.3 to 25 µm
Size Channels	Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 µm variable binning
Flow rate	0.1 CFM (2.83 LPM)
Aerosol Concentration Range	0.01 to 20,000 µg/m ³
Light Source	Long life laser diode
Resolution	0.00003 µg/m ³
Zero Stability	No appreciable drift
Count Modes	Real-Time Meter and graph, cumulative/differential count/m ³ and count/ft ³ , and mass concentration (PM)
Log Interval	1 second to 99 hours
Calibration	NIST traceable
Display	4.3" (10.9 cm) WQVGA (480×272) color touch screen
Printer	(Optional) External thermal printer available
Vacuum Source	Internal pump with automatic flow control
Filtered Exhaust	Internal HEPA filter
Number of Channels	6
Custom Size Channels	Calibration for custom size channels available
Audible Alarm	Adjustable built-in alarm
Communication Modes	Ethernet, USB, Wireless 802.11 b/g (Optional), RS485 or RS232
Environmental Sensors	Includes NDIR-CO ₂ sensor (0-5000 ppm ±1%, resolution 1 ppm, response rate 20 seconds), temperature (32-122°F, ±1°F / 0-50°C, ±0.5°C) and relative humidity probe (15–90% RH, ±2%)
B7301-AQM1	
Environmental Sensors	Includes all sensors in the 7301-AQM1 and PID-TVOC sensor (5 ppb - 50 ppm ±1.5%, response rate <3 seconds)
B7301-AQM2	
Alarm	Alarms for particle counts (any size channel), sensor failure, environmental sensors, and flow rate
Standards	ISO 21501-4 and JIS B9921
Instrument Calibration	Recommended minimum once per year. Gases, temperature and humidity sensors are field calibratable.
External Surface	Stainless steel
Dimensions (L x W x H)	5.22" x 3.81" x 9.42" (13.3 cm x 9.7 cm x 23.9 cm) includes barb fittings
Weight	4 lb (1.8 kg)
Accessories	User manual + Instrument Management Software (IMS) on USB flash drive, isokinetic probe, temperature relative humidity sensor, purge filter, battery, USB cable, and power supply
Optional Accessories	Printed manual, carrying case, spare battery, external battery charger, external printer, barbed fittings, and sample tubing
Data Storage	Securely stores up to 45,000 sample records with particle counts, environmental data, locations, and timestamps
Sample Locations	Up to 1,000 locations 20 characters long
Sample Time	1 second to 99 hours
Power	110 to 240 VAC 50/60 Hz universal in-line power supply
Operating Conditions	41° to 104°F (5° to 40°C) / 20% to 95% non-condensing
Storage Conditions	32° to 122°F (0° to 50°C) / Up to 98% non-condensing
Warranty	2 Year Limited Warranty (Extended and Lifetime Warranties available)

1- Validated by independent analysis see paper available at www.particlesplus.com/aac2022_paper



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1490 Central Street
 Stoughton, MA 02072 U.S.A.
 +1-781-341-6898
www.airytechnology.com