B7300-AQM-1 and B7300-AQM-2 Air Quality Monitors
PM, CO$_2$, Temperature, RH, and TVOC

AIRY
TECHNOLOGY

The Airy Technology® B7300-AQM1 and B7300-AQM2 Air Quality Monitors measure particles from 0.3 to 25.0 µm at a flow rate of 1.2 LPM. These user-friendly instruments display up to six particle size channels, temperature, relative humidity, and CO2 (AQM1) or CO2 + TVOC (AQM2).

Designed for cleanroom monitoring, indoor air quality, industrial hygiene, research, and health & safety applications, the B7300-AQM Monitors offer exceptional versatility. From the cleanest labs to the dirtiest worksites, confidently monitor any environment with the industry's highest available 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 included Airy Technology® IMS 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 B7300-AQM Series can function as a fully portable, battery-operated solution or be easily integrated into building automation.
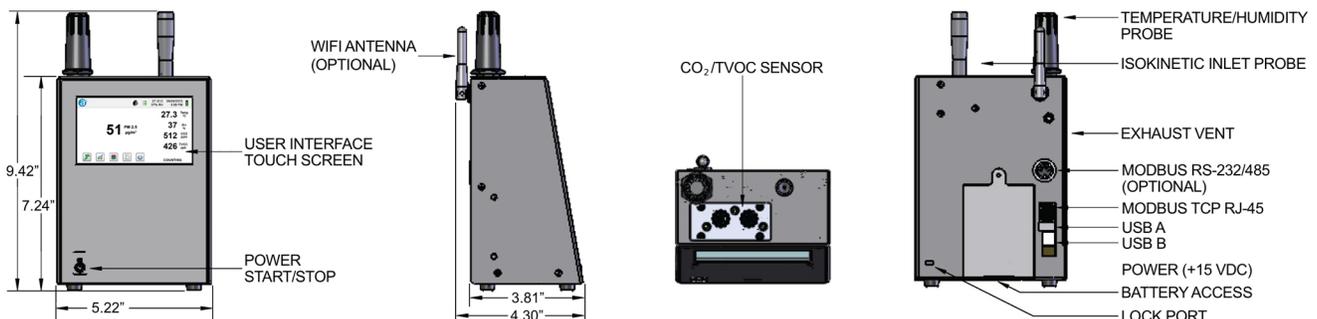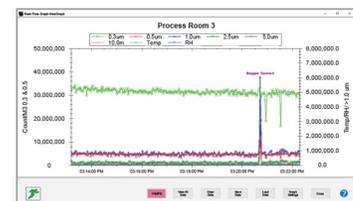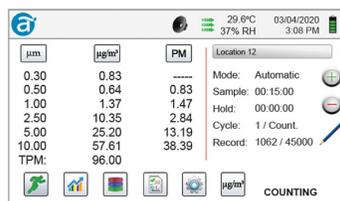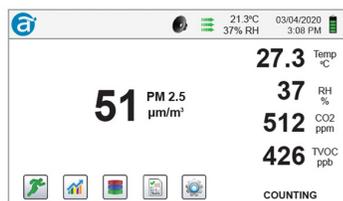
Features and Benefits

- Stores up to 45,000 sample records, 1,000 sample locations and 50 recipes
- Long life laser diode technology for reliable performance
- 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
- Large, intuitive color touch screen display with an easy-to-use icon-driven interface
- Temperature and relative humidity probe included
- Resolve issues quickly from any location with internet-enabled remote diagnostics
- Annotation function allows user to save 32 character notations to a live sample record
- Over 10 hours continuous sampling on a single charge
- Common interface ensures ease of use across all products
- Connect using Ethernet, USB or (optional) Wireless 802.11 big, RS 485, or RS232
- Displays user-definable reports for ISO 14644-1, EU GMP Annex 1 and FS 209E
- Built-in visual and audible alarms with comprehensive alarm management
- Complies with ISO 21501-4 and JIS B9921 standards
- Easy to clean, lightweight stainless steel enclosure with minimal particle traps
- 2 year Limited Warranty (Extended and Lifetime warranties available)

Specifications

Model	B7300-AQM1 and B7300-AQM2
Size Range	0.3 to 10 µm
Size Channels	Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 µm variable binning
Flow rate	1.2 LPM
Concentration Limits	27,000,000 particles/ft³ @ 10% coincidence (per ISO 21501-4), 50,000,000 particles/ft³ @ 10% coincidence (as tested and validated[1])
Aerosol Concentration Range	0.01 to 20,000 µg/m³
Battery Run Time	>10 hours continuous operation
Light Source	Long life laser diode
Resolution	0.00003 µg/m3
Counting Efficiency	50% @ 0.5 µm; 100% for particles >0.75 µm per JIS
Zero Count	<1 count / 60 minutes (<1 particles / 6 ft³). No fault count subtraction.
Count Modes	Particles/second, Real-Time Meter, cumulative/differential (count/m³ and count/ft³) and mass concentration (PM)
Count Alarms	1 to 9,999,999 counts
Calibration	NIST traceable
Display	4.3″ (10.9 cm) WQVGA (480×272) color touch screen
Optional Printer	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 integrated alarm
Communication Modes	Ethernet, USB, Wireless 802.11 b/g (Optional), RS485 or RS232
Environmental Sensors (AQM-1)	Includes NDIR-CO2 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%)
Environmental Sensors (AQM-2)	Includes all sensors in the 7300-AQM1 and PID-TVOC sensor (5 ppb - 50 ppm ±1.5%, response rate <3 seconds)
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 fitings
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	41º to 104ºF (5º to 40ºC) / 20% to 95% non-condensing
Storage Conditions	32º to 122ºF (0º to 50ºC) / 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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