B7301 and B7501 Remote Airborne Particle Counters
0.1 CFM (2.83 LPM)

The Airy Technology® B7301 and B7501 Remote Particle Counters measure particles from 0.3 or 0.5 to 25.0 µm at a flow rate of 0.1 CFM (2.83 LPM). These userfriendly instruments display up to six selectable particle size channels, along with temperature and relative humidity measurements.

Designed for cleanroom monitoring, indoor air quality, industrial hygiene, research, and health & safety 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, through a facility monitoring system, 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.
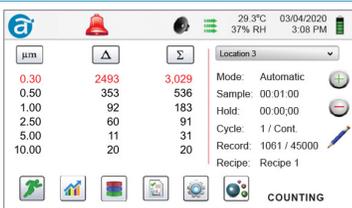
Features and Benefits

- 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 0.5 µm to 10 µm including TPM of up to 75 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
- Equipped with a standard 1/4"–20 female mount for tripod mounting
- Easy to clean, lightweight stainless steel enclosure with minimal particle traps
- 2 year Limited Warranty (Extended and Lifetime warranties available)

Specifications

Model	B7301	B7501
Size Range	0.3 to 25 µm	0.5 to 25 µm
Size Channels	Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 µm variable binning	Factory calibrated at 0.5, 0.7, 1.0, 2.5, 5.0, 10.0 µm variable binning
Counting Efficiency	50% @ 0.3 µm; 100% for particles >0.45 µm per JIS	50% @ 0.5 µm; 100% for particles >0.75 µm per JIS
Flow rates	0.1 CFM (2.83 LPM)	
Concentration Limits	15,000,000 particles/ft³ @ 10% coincidence (per ISO 21501-4), 30,000,000 particles/ft³ @ 10% coincidence (as tested and validated[1])	
Battery Run Time	>10 hours continuous operation	
Light Source	Long life laser diode	
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	
Battery	Removable Li-ion (Recharge time: 4 hours within instrument, <2 hours with external battery charger)	
Exportble Data Reports	ISO 14644-1, EU GMP Annex 1, FS 209E	
Recipes	50 user-configurable recipes	
Communication Modes	Ethernet, USB, Wireless 802.11 b/g (Optional), RS485 or RS232	
Environmental Sensor	Includes temperature 32° to 122°F (0° to 50°C) ±1°F (0.5°C) and relative humidity probe 15-90% ±2%	
Alarm	Integrated alarms for particle counts (any size channel), sensor failure, environmental sensors, and flow rate	
Standards	ISO 21501-4 and JIS B9921	
Calibration	Recommended minimum once per year	
External Surface	Stainless steel	
Dimensions (L x W x H)	5.22" x 3.81" x 9.42" (14.0 cm x 9.7 cm x 23.9 cm) includes barb fitings	
Weight	4.0 lb (1.8 kg)	
Accessories	User manual + Instrument Management Software (IMS) on USB flash drive, isokinetic probe, temperature relative humidity sensor, zero-count filter, battery, USB cable, and power supply	
Optional Accessories	Printed manual, spare battery, external battery charger, external printer and isokinetic probes	
Buffer Memory	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 warranties available.	

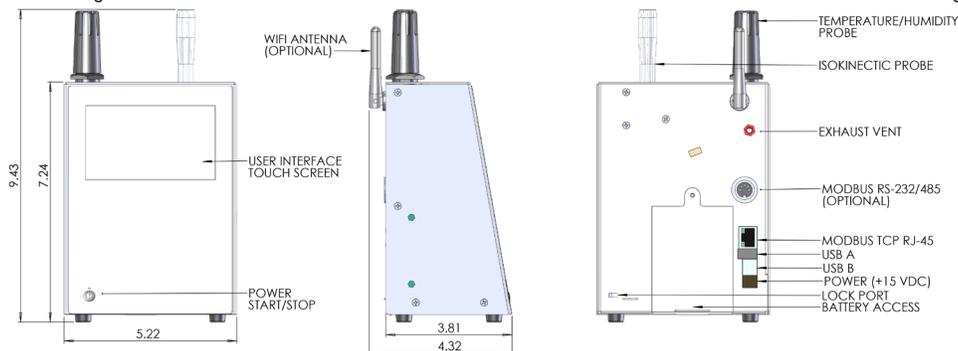1- Validated by independent analysis see paper available at www.particlesplus.com/aac2022_paper

Audible and Visual Alarm Management

Icon Driven Menus for Ease of Use

Control and Manage Remotely with IMS

AIRY TECHNOLOGY

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