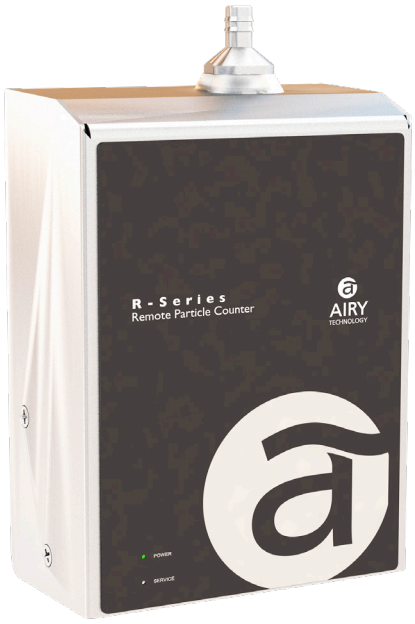
R9301P and R9501P Remote Particle Counters

0.1 CFM (2.83 LPM)



The Airy Technology® R9301P and R9501P Remote Airborne Particle Counters are designed for continuous monitoring in cleanrooms and other controlled environments. With 30 user-selectable particle size channels ranging from 0.3 or 0.5 up to 25.0µm and a quiet 0.1 CFM (2.83 LPM) internal pump, these instruments deliver targeted contamination detection with real-time data collection and configurable alarms for immediate incident reporting and local visual alerts.

Calibrated to ISO 21501-4 standards for traceability, the R9301P and R9501P feature onboard storage for redundant data validation and secure user access. The compact, angled enclosures enable installation in tight locations while minimizing disruption to unidirectional airflow. The R9301P and R9501P support data reporting in standard cleanroom formats or as mass concentration in µg/m³, with density and refractive index corrections. Optional temperature and relative humidity probes allow integration of three key data points into a single monitoring location.

Built for scalability and long-term reliability, these models utilize durable laser diodes backed by a lifetime warranty, and they deliver exceptional zero-count performance. With seamless connectivity, remote diagnostics, and a standardized architecture, they offer simplified integration and a lower total cost of ownership for critical monitoring applications.

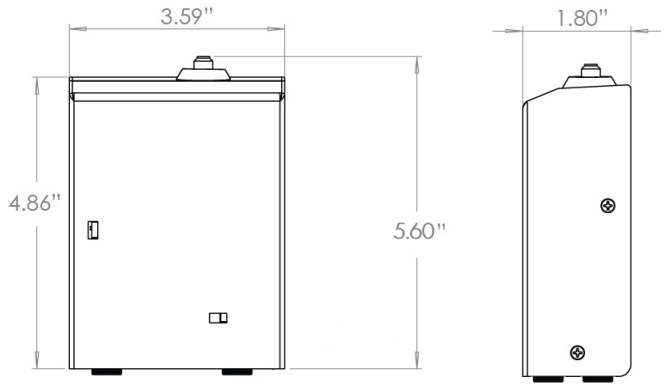
Features and Benefits

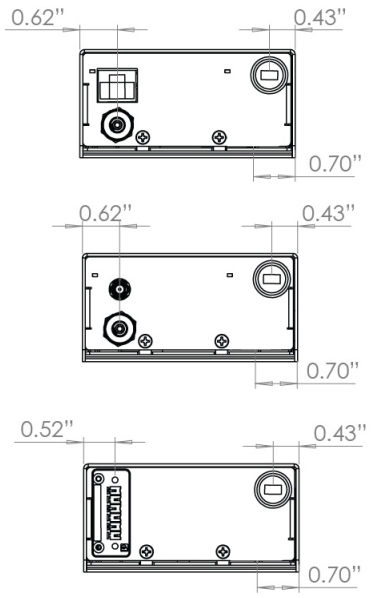
- 0.1 CFM (2.83 LPM) flow rate
- Long life laser diode technology
- Measures up to 30 channels of simultaneous data
- Accurate in high concentration environments with minimal time to zero-count
- Internal vacuum pump and HEPA filtered exhaust
- Troubleshoot issues remotely from anywhere with an internet connection
- Stores up to 65,000 sample records for on-board data redundancy
- Optional temperature and relative humidity probe available
- Connect via Modbus RTU/ASCII over isolated RS-485, TCP/IP, PoE, or WiFi
- Complies with ISO 21501-4 and JIS B9921 standards
- Easy to clean, lightweight stainless steel enclosure with minimal particle traps
- Versatile mounting options
- Alarm light and LED indicators for real-time alerts
- Seamless integration into a facility monitoring system
- 2 Year Limited Warranty (Extended and Lifetime Warranties available)

Specifications

Model	R9301P	R9501P
Size Range	0.3 µm to 25 µm	0.5 µm to 25 µm
Size Channels	Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 µm	Factory calibrated at 0.5, 0.7, 1.0, 2.5, 5.0, 10.0 µm
Counting Efficiency	50% @ 0.3µm; 100% for particles > 0.45 µm per JIS	50% @ 0.5µm; 100% for particles > 0.75 µm per JIS
Flow Rate	0.1 CFM (2.83 LPM)	
Concentration Limits	10,000,000 particles/ft^3 @ 10% coincidence (per ISO 21501-4), 20,000,000 particles/ft^3 @ 10% coincidence (as tested and validated[1])	
Light Source	Long life laser diode	
Zero Count	< 1 count / 60 minutes (< 1 particles / 6ft^3). No fault count subtraction.	
Alarms	Channel alarms on Raw counts, concentrations or mass (alarms on environmental sensors optional)	
Calibration	NIST traceable	
Vacuum Source	Internal vacuum pump with HEPA filter	
Filtered Exhaust	Internal HEPA filter	
Airflow	Internally monitored	
Number of Channels	6 channels (up to 30 channels of simultaneous data)	
Configuration/Download	USB mini-B	
Alarm	Alarm LED ring	
Communication Modes	MODBUS™ RTU or ASCII outputs (over isolated RS-485), TCP/IP, PoE, or WiFi	
Optional Environmental Sensor	Temperature and Relative Humidity probe 32º to 122ºF (0º to 50ºC) ±1ºF (0.5ºC), 15-90% ±2% RH	
Standards	ISO 21501-4 and JIS B9921	
Instrument Calibration	Recommended minimum once per year	
External Surface	Stainless steel	
Dimensions (L x W x H)	3.5” x 1.8” x 5.6” (8.9 cm x 4.6 cm x 14.2 cm) including probes and connectors	
Weight	1.08 lb. (494 grams)	
Accessories	Terminal block plug, User Manual, and Instrument Management Software (USB Key)	
Optional Accessories	Printed manual, barb fittings, mounting bracket, sample tubing, zero-count filter, and temp./RH probe	
Buffer Memory	65,000 sample records (rotating buffer) including particle count data and environmental data	
Sample Time	1 second to 99 hours	
Power	9 - 24 VDC (< 1.5 watts)	
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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Made in USA

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