

R5301 and R5501 Remote Airborne Particle Counter

0.1 CFM (2.83 LPM)



The Airy Technology® R5301 and R5501 Remote Airborne 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 compact and user-friendly instruments display up to six selectable particle size channels, along with optional temperature and relative humidity sensors.

Built for research, industrial hygiene, indoor air quality, and cleanroom applications, the R5000 Series delivers reliable, high-performance monitoring across a wide range of environments. From the cleanest labs to the dirtiest worksites, confidently monitor any environment thanks to the industry's highest particle concentration limits.

One of the key advantages of the R5000 Series as a remote particle counter is its built-in touchscreen display. It provides real-time visual feedback for technicians working in critical areas and enables immediate identification of elevated particle counts. Adjustable audible alarms offer an additional layer of awareness in critical environments.

Designed for continuous, powered operation, the R5000 Series is ideal for fixed installations where uninterrupted monitoring is essential. 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 or generate custom reports (ISO 14644-1, EU GMP Annex 1, or FS 209E). Remote diagnostics are available through the software from anywhere with an internet connection. The R5000 Series can function as a standalone unit or be seamlessly integrated into building automation and cleanroom management systems.

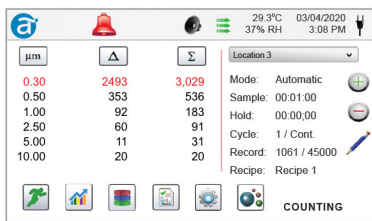
Features and Benefits

- 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 $\mu\text{g}/\text{m}^3$ with density and refractive index corrections
- User selectable PM sizes from 0.3 or 0.5 μm to 10 μm including TPM of up to 25.0 μm
- Large, intuitive color touch screen display with an easy-to-use icon-driven interface
- Versatile mounting options
- 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
- Common interface ensures ease of use across all products
- Connect using Ethernet, USB, Wi-Fi (optional), 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 | R5301 | R5501 |
|-------------------------------|---|--|
| Size Range | 0.3 to 25 µm | 0.5 to 25.0 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, 1.0, 2.5, 5.0, 10.0, 30.0 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 validated¹) | |
| Light Source | Long life laser diode | |
| Zero Count | <1 count / 60 minutes (<1 particles / 6 ft³). No fault count subtraction. | |
| Count Modes | Real-Time Meter and graph, 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 | |
| Printer (Optional) | External thermal printer available | |
| Vacuum Requirements | External vacuum >15" (38.1 cm) of Hg | |
| Airflow | Internally monitored | |
| Number of Channels | 6 | |
| Custom Size Channels | Calibration for custom size channels available | |
| Audible Alarm | Adjustable built-in alarm | |
| Reports | ISO 14644-1, EU GMP Annex 1, FS 209E | |
| Communication Modes | Ethernet, USB, Wireless 802.11 b/g (Optional), RS485 or RS232 | |
| Optional Environmental Sensor | Temperature (32-122°F, ±1°F / 0-50°C, ±0.5°C) and relative humidity probe (15-90% RH, ±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 2.25 x 9.13 in (13.3 x 5.8 x 22.6 cm) includes barb fittings | |
| Weight | 2.6 lb (1.18 kg) | |
| Accessories | User manual + Instrument Management Software (IMS) on USB flash drive, isokinetic probe, zero-count filter, USB cable, and power supply | |
| Optional Accessories | Printed manual, temperature relative humidity probe, carrying case, external printer, barbed fittings, and tubing | |
| 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 and Lifetime warranties available) | |

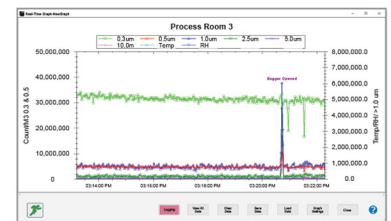
1- Validated by independent analysis see paper available at www.particlesplus.com/aac2022_paper



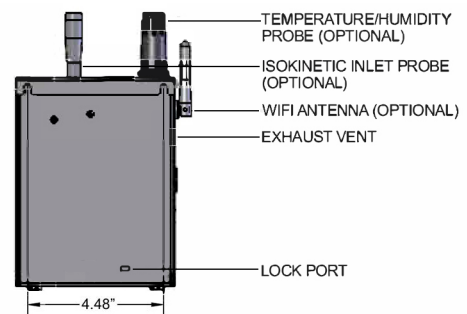
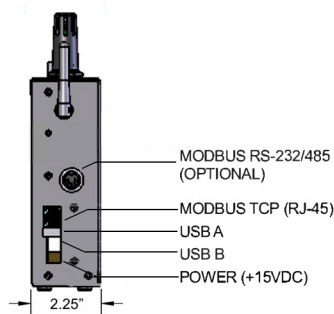
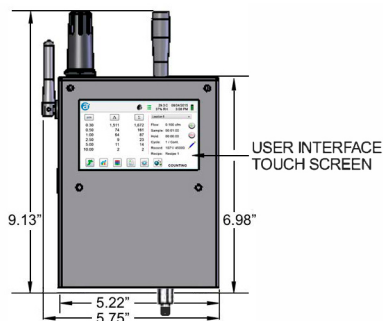
Audible and Visual Alarm Management



Icon Driven Menus for Ease of Use



Control and Manage Remotely with IMS



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