R5510 Remote Particle Counter

0.1 CFM (2.83 LPM)

The Airy Technology® R5510 Remote Particle Counter measures particles from 0.5 to 75.0 µm at a flow rate of 0.1 CFM (2.83 LPM). These user-friendly instruments display up to six selectable particle size channels, along with optional temperature and relative humidity measurements.

Designed for cleanroom monitoring, indoor air quality, industrial hygiene, research, and health & safety applications, the R5000 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.

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, enabling immediate identification of elevated particle counts. Adjustable audible alarms offer an additional layer of awareness in critical environments. 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 reports (ISO 14644-1, EU GMP Annex 1, or FS 209E). Remote diagnostics are also available from anywhere with an internet connection. The R5000 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.
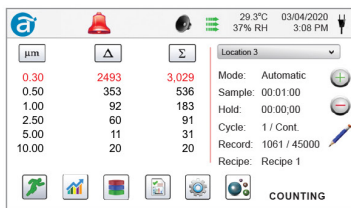
R5510: Features and Benefits

- Stores up to 45,000 sample records, 1,000 sample locations and 50 recipes
- Long life laser diode technology
- Approximates mass concentration in µg/m3 with density/refractive index corrections
- User selectable PM sizes 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 and wipe down with minimal particle traps
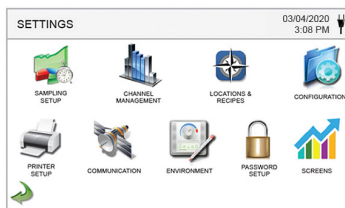- 2 year Limited Warranty (Extended and Lifetime warranties available)

Specifications

Model	R5510
Size Range	0.5 µm to 25.0 µm
Size Channels	Factory calibrated at 0.5, 0.7, 1.0, 3.0, 5.0, 10.0 µm variable binning
Counting Efficiency	50% @ 0.3µm; 100% for particles > 0.45 µm per JIS
Flow Rate	0.1 CFM (2.83 LPM)
Concentration Limits	1,500,000 particles/ft^3 @ 10% coincidence (per ISO 21501-4), 3,000,000 particles/ft^3 @ 10% coincidence (as tested and validated[1])
Light Source	Long life laser diode
Zero Count	<1 count / 60 minutes (<1 particles / 6 ft^3). No fault count subtraction.
Count Modes	Real-Time Meter and graph, cumulative/differential count/m3 and count/ft3, 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” (38.1cm) 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 32º to 122ºF (0º to 50ºC) ±1ºF (0.5ºC) and relative humidity probe 15-90% ±2%
Alarm	Alarms on counts for all particle sizes, low battery, sensor failure, environmental sensors and flow
Standards	ISO 21501-4 and JIS B9921
Calibration	Recommended minimum once per year
External Surface	Stainless steel
Dimensions (L x W x H)	5.2” x 2.3” x 8.9” (13.3 cm x 5.8 cm 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, temperature relative humidity sensor, zero-count filter, USB cable, and power supply
Optional Accessories	Printed manual, carrying case, external printer, barbed fittings, and tubing
Buffer Memory	Stores up to 45,000 sample records with particle counts, environmental data, locations, and timestamps
Sample Time	1 second to 99 hours
Sample Locations	Up to 1,000 locations 20 characters long
Power	9 - 24 VDC (< 2.5 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 warranties available.

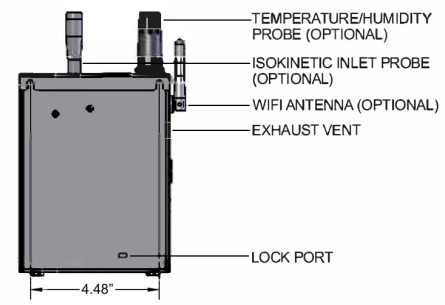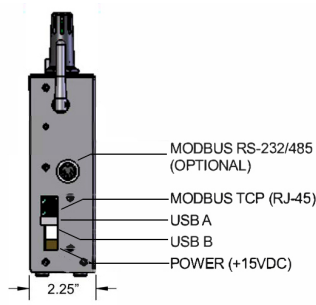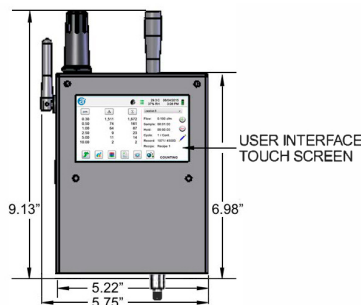1- Validated by independent analysis see paper available at www.particlesplus.com/aac2022_paper

Audible and Visual Alarm Management

Icon Driven Menus for Ease of Use

Control and Manage Remotely with IMS

USER INTERFACE TOUCH SCREEN
9.13" 6.98"
5.22"
5.75"

MODBUS RS-232/485 (OPTIONAL)
MODBUS TCP (RJ-45)
USB A
USB B
POWER (+15VDC)
2.25"

TEMPERATURE/HUMIDITY PROBE (OPTIONAL)
ISOKINETIC INLET PROBE (OPTIONAL)
WIFI ANTENNA (OPTIONAL)
EXHAUST VENT
LOCK PORT
4.48"

CE   Made in USA   AIRY TECHNOLOGY

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