# R5510 Remote Particle Counter
## 0.1 CFM (2.83 LPM)



• Industry's highest concentration of 1,500,000 particles/ft3 @ 10% coincidence loss
• Ideal for use in research, industrial health and safety, indoor air quality, and cleanroom applications
• The most comprehensive internal self-diagnostics of any remote particle counter
• Remote diagnostics allow for remote service investigation through the Internet
• Supports MODBUS TCP, RTU and ASCII communication over Ethernet, or (optional) RS-485/RS-232
• Internet of Things (IoT) communication allows for network or cloud-based data options



The Airy Technology® R5510 Remote Particle Counter measures 0.5 to 25.0 µm and is the most feature advanced remote particle counters available.
Integration is easy into a building automation and cleanroom management system via Ethernet, or (optional) Wireless 802.11 b/g, RS485 or RS232. Integrated web server displays instrument screen through any browser.

The R5510 remote particle counter displays and reports 6 user-selectable particle size channels, as well as (optional) temperature and humidity, flow and sensor status, date of last calibration, serial number, laser on-time, and date of manufacture for easy maintenance and warranty management. Storing up to 45,000 time-stamped particle count and environmental data records provides data redundancy on every instrument. Particles Plus® counters can be monitored remotely via web browser, or controlled and monitored using IMS Software.

All Airy Technology® counters meet ISO 21501-4 and JIS B9921. The 5510 ensures compliance with an on-board pulse height analyzer.

### R5510: Features and Benefits

• Measures 0.5 µm to 25.0 µm
• 0.1 CFM (2.83 LPM) flow rate
• Long life laser diode technology
• Measures up to 4 channels of simultaneous data
• Approximates mas concentration in µg/m3 with density/refractive index corections
• Large easy-to-use icon driven colour touch screen display
• Optional) Temperature and relative humidity probe
• Stores up to 45,000 sample records, 1,000 sample locations and 50 recipes
• Annotation function alows user to save 32 character notations to a sample record
• Easy configuration and transferable from instrument to instrument
• Connect using Ethernet, USB or (optional) Wireles 802.11b/g, RS485 or RS232
• Static or dynamic IP address (DHCP)
• Remote diagnostics allows for remote service investigation through the internet
• Versatile mounting options
• Internal audible alarm
• User-selectable channel sizes
• Complies with ISO 21501-4 and JIS B9921 standards
• Easy to clean and wipe down with minimal particle traps
• Seamless integration into a facitilty monitoring system
• Light weight stainles steel enclosure
• 2 year limited waranty. Extended waranties available.

R-Series
Remote Particle Counter

## 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 |
| Number of Channels | 6 channels |
| Custom Size Channels | Calibration for custom size channels available |
| 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. |
| Calibration | NIST traceable |
| Vacuum Requirements | External vacuum > 15" (38.1cm) of Hg |
| Airflow | Internally monitored |
| Audible Alarm | Adjustable built-in alarm |
| Reports | ISO 14644-1, EU GMP Annex 1, FS 209E |
| Communication Modes | Ethernet and USB (Optional) Wireless 802.11 b/g, RS485 or RS232. |
| Environmental Sensor | (Optional) 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 |
| Instrument 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 | Operating manual on USB flash drive, isokinetic probe, temperature relative humidity sensor, filter, battery, data download software, USB cable, power supply & cable |
| Optional Accessories | Printed manual, spare battery, external battery charger, external printer and isokinetic probes |
| Buffer Memory | 45,000 sample records (rotating buffer) including particle count data, environmental data, locations and times. Scrollable on screen or printout |
| 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

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