R5301 and R5501 Remote Particle Counters
0.1 CFM (2.83 LPM)

- Industry's highest concentration of 15,000,000 particles/ft³ @ 10% coincidence loss
- Ideal for use in cleanrooms, industrial health and safety, and air quality 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® R5301 and R5501 Remote Particle Counters measure 0.3 or 0.5 to 25.0 µm and are 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, RS-485 or RS-232. Integrated web server displays instrument screen through any browser.

The R5301 and R5501 remote particle counters display and report 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. Airy Technology® counters can be monitored remotely via web browser, or controlled and monitored using IMS Software.
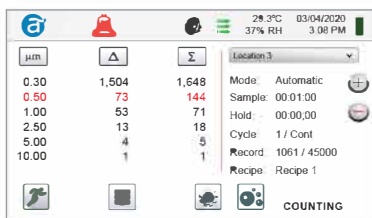
All Airy Technology® counters meet ISO 21501-4 and JIS B9921. The R5301 and R5501 ensure compliance with an on-board pulse height analyzer.

Features and Benefits

- R5301: Measures 0.3 µm to 25 µm
- R5501: Measures 0.5 µm to 25 µm
- 0.1 CFM (2.83 LPM) flow rate
- Long life laser diode technology
- Measures up to 6 channels of simultaneous data
- Large easy-to-use icon driven color touch screen display
- (Optional) temperature and relative humidity probe available
- Stores up to 45,000 sample records for on-board data redundancy
- Annotation function allows user to save 32 character notations to a sample record
- Easy configuration and transferable from instrument to instrument
- Connect using Ethernet, USB or (optional) Wireless 802.11 b/g, RS-485 or RS-232
- Static or dynamic IP address (DHCP)
- Internal audible alarm with comprehensive alarm management
- User-selectable channel sizes
- Complies with ISO 21501-4 and JIS B9921 standards
- Easy to clean and wipe down with minimal particle traps
- Versatile mounting options
- Seamless integration into a facility monitoring system
- Lightweight stainless steel enclosure
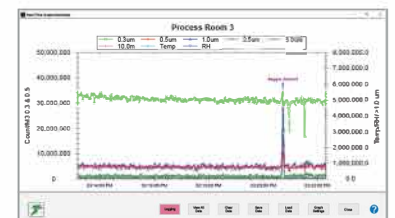- 1 year limited warranty. Extended warranties available.

Specifications

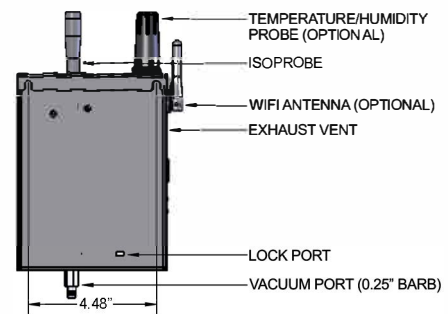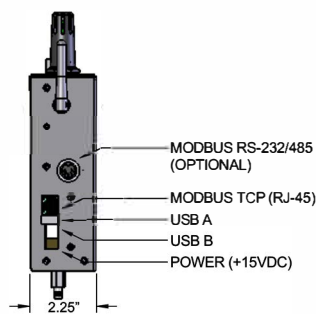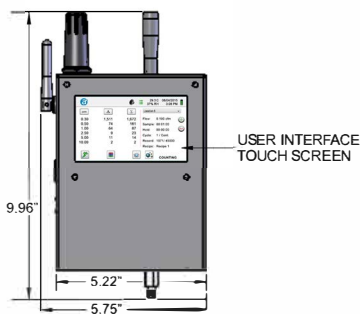| Models	R5301	R5501
Size Range	0.3 to 25 μm	0.5 to 25 μm
Size Channels	Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 μm Variable binning - user defined channel sizes	Factory calibrated at 0.5, 0.7, 1.0, 2.5, 5.0, 10.0 μm Variable binning - user defined channel sizes
Counting Efficiency	50% @ 0.3 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 Limit	15,000,000 Particles/ft³ @ 10% coincidence loss	
Light Source	Long life laser diode	
Zero Count	<1 count / 60 minutes (<1 particles / 6 ft³)	
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 (480x272) color touch screen	
Vacuum Requirements	External vacuum >15" (38.1 cm) of Hg	
Number of Channels	6	
Custom Size Channels	Calibration for custom size channels available	
Airflow	Internally monitored	
Audible Alarm	Adjustable built-in alarm	
Communication Modes	Ethernet and USB. (Optional) Wireless 802.11 b/g, RS-485 or RS-232.	
Environmental Sensor	(Optional) Temp and RH probe 32º to 122ºF (0º to 50ºC) ±1ºF (0.5ºC), 15-90% ±2% relative humidity	
Alarm	Alarms on counts for all particle sizes, 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)	5.22" x 2.25" x 9.96" (13.3 cm x 5.7 cm x 25.3 cm) includes barb fittings	
Weight	2.6 lb (1.18 kg)	
Accessories	Operating manual on USB flash drive, isokinetic probe, power supply and cable	
Optional Accessories	Printed manual, temperature relative humidity sensor, isokinetic probes, barb fittings, purge filter, data cable, mounting bracket and sample tubing, IMS-RT monitoring system	
Buffer Memory	45,000 sample records (rotating buffer) including particle count data, environmental data, locations, annotations, and times. Scrollable on screen or printout.	
Sample Time	1 second to 99 hours	
Power	110 to 240 VAC 50/60 Hz universal in-line power supply	
Operating Conditions	41º to 104ºF (5º to 40ºC) / 20% to 95% non-condensing	
Storage Conditions	32º to 122ºF (0º to 50ºC) / Up to 98% non-condensing	
Warranty	1 year limited warranty. Extended warranties available.	

Audible and Visual Alarm Management

Simultaneous Display of Multiple PM Sizes

Control and Manage Remotely with IMS

USER INTERFACE TOUCH SCREEN

9.96"

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)

ISOPROBE

WIFI ANTENNA (OPTIONAL)

EXHAUST VENT

LOCK PORT

VACUUM PORT (0.25" BARB)

4.48"

CE

Made in USA

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