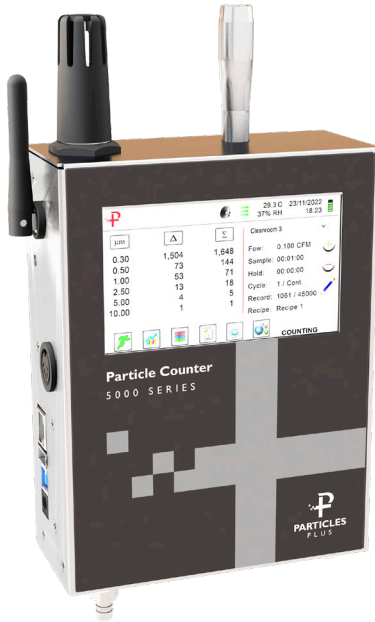# 5301 and 5501 Remote Airborne Particle Counters
0.1CFM (2.83 LPM)

- Industry's highest concentration of 15,000,000 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 Particles Plus® 5301 and 5501 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, RS485 or RS232. Integrated web server displays instrument screen through any browser.

The 5301 and 5501 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. Particles Plus® counters can be monitored remotely via web browser, or controlled and monitored using IMS Software.

All Particles Plus® counters meet ISO 21501-4 and JIS B9921. The 5301 and 5501 ensure compliance with an on-board pulse height analyzer.
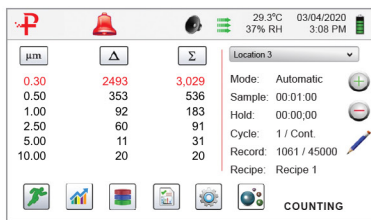
Features and Benefits

- 5301: Measures 0.3 µm to 25 µm
- 5501: 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
- 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

Specifications

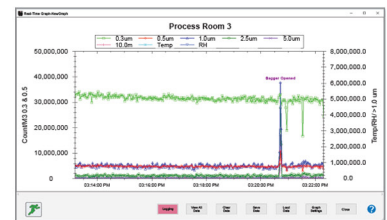| Model	5301	5501
Size Range	0.3 to 25.0 µm	0.5 to 25.0 µm
Size Channels	Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 µm variable binning	Factory calibrated at 0.5, 0.7, 1.0, 2.5, 5.0, 10.0 µm variable binning
Counting Efficiency	50% @ 0.3 µm; 100% for particles >0.45 µm per JIS	50% @ 0.5 µm; 100% for particles >0.75 µm per JIS
Concentration Limits	15,000,000 particles/ft^3 @ 10% coincidence (per ISO 21501-4), 30,000,000 particles/ft^3 @ 10% coincidence (as tested and validated[1])	
Flow rates	0.1 CFM (2.83 LPM)	
Light Source	Long life laser diode	
Zero Count	<1 count / 60 minutes (<1 particles / 6 ft^3)	
Count Modes	Real-Time Meter and graph, cumulative/differential count/m^3 and count/ft^3, 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 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	
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, purge 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 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	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	2 Years. Extended warranties available.	

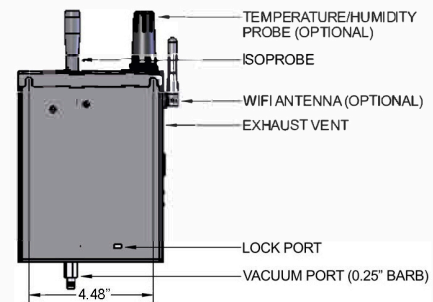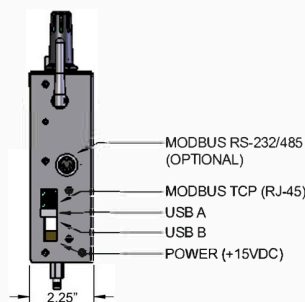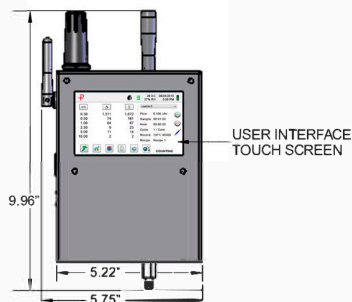1- Validated by independent analysis see paper available at www.particlesplus.com/aac2022_paper

Audible and Visual Alarm Management

Icon Driven Menus for Ease-of-Use

Control and Manage Remotely with IMS

USER INTERFACE TOUCH SCREEN
9.96"
5.22"
5.75"

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

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ISOPROBE
WIFI ANTENNA (OPTIONAL)
EXHAUST VENT
LOCK PORT
VACUUM PORT (0.25" BARB)
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