5501-30 Remote Airborne Particle Counter

0.1CFM (2.83 LPM)

The Particles Plus® 5501-30 Remote Airborne Particle Counter measure 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 5000 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 5000 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 Particles Plus® 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, through a facility monitoring system or through the free Particles Plus® 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 5000 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.

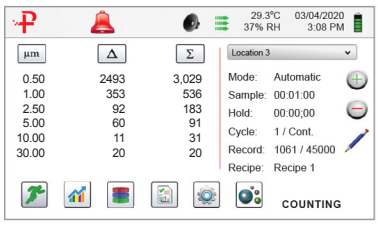
Features and Benefits

- 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 µg/m³ with density and refractive index corrections
- User selectable PM sizes from 0.5 µm to 10 µm including TPM of up to 75 µm
- Large, intuitive color touch screen display with an easy-to-use icon-driven interface
- 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
- Seamlessly integrates into facility monitoring and building automation systems
- Connect using MODBUS™ TCP over Wired. Optional MODBUS™ TCP over WiFi and optional MODBUS™ RTU or MODBUS™ ASCII over RS-485 or RS-232
- Export 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
- Seamlessly integrates into facility monitoring and building automation systems
- Easy to clean, lightweight stainless steel enclosure with minimal particle traps
- 2 year Limited Warranty (Extended and Lifetime warranties available)

Specifications

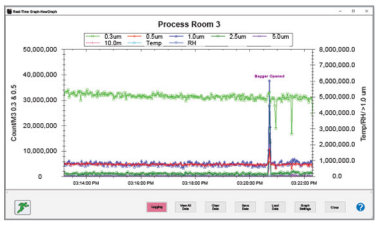
Model	5501-30
Size Range	0.5 to 75.0 µm
Size Channels	Factory calibrated at 0.5, 1.0, 2.5, 5.0, 10.0, 30.0 µm variable binning
Flow rates	0.1 CFM (2.83 LPM)
Concentration Limits	15,000,000 particles/ft³ @ 10% coincidence (per ISO 21501-4), 30,000,000 particles/ft³ @ 10% coincidence (as tested and validated[1])
Aerosol Concentration Range	0.01 to 20,000 µg/m³
Light Source	Long life laser diode
Counting Efficiency	50% @ 0.5 µm; 100% for particles >0.75 µm per JIS
Zero Count	<1 count / 60 minutes (<1 particles / 6 ft³). No fault count subtraction. No appreciable drift.
Count Modes	Particles/second, Real-Time Meter, 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
Optional Printer	External thermal printer available
Vacuum Source	External vacuum >15” (38.1 cm) of Hg
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
Recipes	50 user-configurable recipes
Communication Modes	MODBUS™ TCP over Wired. Optional MODBUS™ TCP over WiFi and optional MODBUS™ RTU or MODBUS™ ASCII over RS-485 or RS-232
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 3.81 x 9.42 in (14.0 x 9.7 x 23.9 cm) includes barb fittings
Weight	2.6 lb (1.18 kg)
Accessories	User manual + Instrument Management Software (IMS) on USB flash drive, isokinetic probe, USB cable, and power supply
Optional Accessories	Printed manual, temperature and relative humidity probe, carrying case, external printer, barbed fittings, tubing, zero-count filter
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	41-104ºF (5-40ºC) / 20% to 95% non-condensing
Storage Conditions	32-122ºF (0-50ºC) / 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

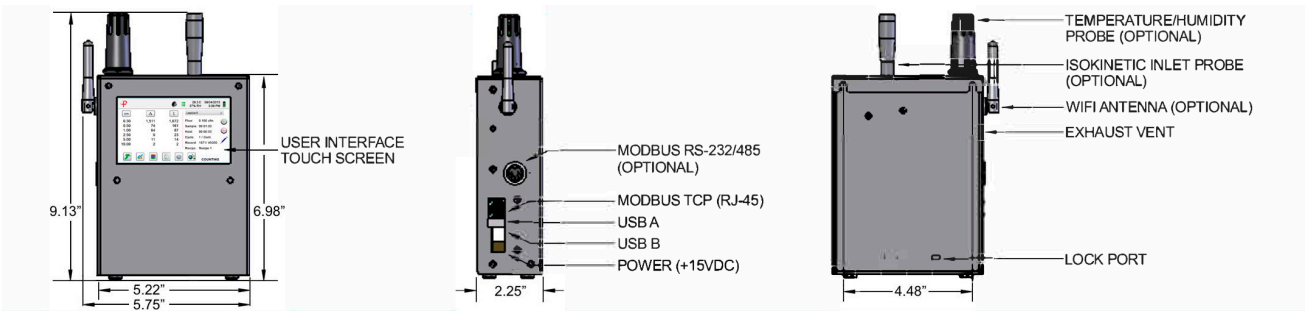


Audible and Visual Alarm Management

Icon Driven Menus for Ease-of-Use



Control and Manage Remotely with IMS



PAT. https://particlepatents.com/ Additional Patents Pending.
Particles Plus, Inc. reserves the right to change specifications without notice.
Contact hello@particlesplus.com or your local distributor for more details.
Particles Plus and the Particles Plus logo are trademarks of Particles Plus, Inc.
©2025 Particles Plus, Inc. All rights reserved.

REV 20260220-5501-30

Made in USA

PARTICLES PLUS®

1490 Central Street
Stoughton, MA 02072 U.S.A.
+1-781-341-6898
www.particlesplus.com