

# 8300 Handheld Airborne Particle Counter

## 1.2 LPM



The Particles Plus® 8300 Particle Counters are purpose-built for ambient and indoor air quality monitoring, industrial hygiene, environmental research, and health & safety applications. Featuring a 1.2 LPM flow rate, the 8300 is optimized for high-concentration environments—providing improved accuracy, reduced coincidence loss, and extended instrument lifespan in comparison to higher-flow models.

The 8300 measures particles from 0.3 to 25 µm in six user-selectable channels, with flexible data reporting formats including mass concentration (µg/m³) and optional corrections for density and refractive index. Integrated sensors for temperature and relative humidity, and optional CO2 and TVOC, offer comprehensive environmental data alongside particle measurements.

With unique features like Particles/Second and the Real-Time Meter, the 8300 enables efficient, on-the-go particle investigations across nearly any environment. The instrument can also operate as a remote particle counter, leveraging its intelligent battery and power conservation modes to achieve up to 100 hours of battery life.

Its compact design, durable hardware, and long-life pump allows the 8300 to offer a cost-effective and reliable solution for continuous and remote monitoring. Its standardized architecture and remote diagnostic capabilities reduce maintenance and ensure long-term performance across a wide range of indoor and outdoor air quality applications.

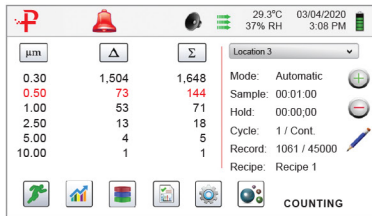
### Features and Benefits

- Long life laser diode technology for reliable performance
- Measures up to 6 channels of simultaneous data
- Approximates mass concentration in µg/m³ with density and refractive index corrections
- User selectable PM sizes from 0.3 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
- Temperature and relative humidity probe included
- Stores up to 45,000 sample records, 1,000 sample locations and 50 recipes
- Annotation function allows user to save 32 character notations to a live sample record
- Resolve issues quickly from any location with internet-enabled remote diagnostics
- 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
- Equipped with a standard 1/4"–20 female mount for tripod compatibility
- Complies with ISO 21501-4 and JIS B9921 standards
- Easy to clean and wipe down with minimal particle traps
- Seamless integration into a facility monitoring system
- Lightweight high-impact injection molded plastic enclosure
- 2 Year Limited Warranty (Extended and Lifetime warranties available)

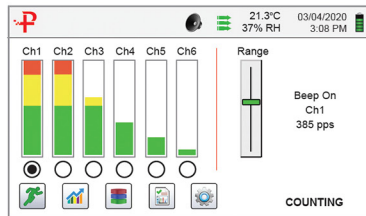
## Specifications

<b>Model</b>	<b>8300</b>
Size Range	0.3 to 25 µm
Size Channels	Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 µm variable binning
Flow rates	1.2 LPM
Concentration Limits	27,000,000 particles/ft³ @ 10% coincidence (per ISO 21501-4), 50,000,000 particles/ft³ @ 10% coincidence (as tested and validated¹)
Battery Run Time	>10 hours continuous operation
Light Source	Long life laser diode
Counting Efficiency	50% @ 0.3 µm; 100% for particles >0.45 µm per JIS
Zero Count	<1 count / 60 minutes (<1 particles / 6 ft³). No fault count subtraction.
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 (480×272) color touch screen
Printer	(Optional) External thermal printer available
Vacuum Source	Internal pump with automatic flow control
Filtered Exhaust	Internal HEPA filter
Number of Channels	6
Custom Size Channels	Calibration for custom size channels available
Audible Alarm	Adjustable built-in alarm
Battery	Removable Li-ion (Recharge time: 4 hours within instrument, <2 hours with external battery charger)
Reports	ISO 14644-1, EU GMP Annex 1, FS 209E
Recipes	50 user-configurable recipes
Communication Modes	Ethernet and USB. (Optional) Wireless 802.11 b/g, RS485 or RS232
Environmental Sensor	Includes temperature 32° to 122°F (0° to 50°C) ±1°F (0.5°C) and relative humidity probe 15-90% ±2%
Alarm	Alarms on counts for all particle sizes, sensor failure, environmental sensors and flow
Standards	ISO 21501-4 and JIS B9921
Calibration	Recommended minimum once per year
External Surface	High impact injection molded plastic
Dimensions (L x W x H)	5.12" x 4.25" x 12.26" (13.0 cm x 10.8 cm x 31.1 cm) includes handle and does not include probes
Weight	2.2 lb (1.0 kg)
Accessories	Operating manual and IMS software on USB flash drive, isokinetic probe, temperature relative humidity sensor, filter, battery, data download software, USB cable, power supply and cable
Optional Accessories	Printed manual, carrying case, spare battery, external battery charger, external printer and isokinetic probes, barbed fittings, 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 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° 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.

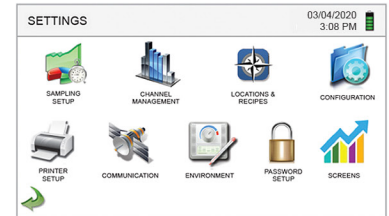
1- Validated by independent analysis see paper available at [www.particlesplus.com/aac2022\\_paper](http://www.particlesplus.com/aac2022_paper)



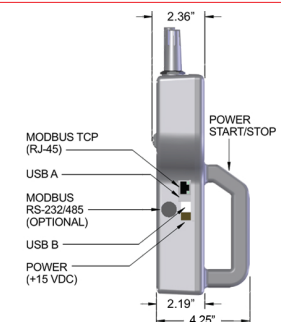
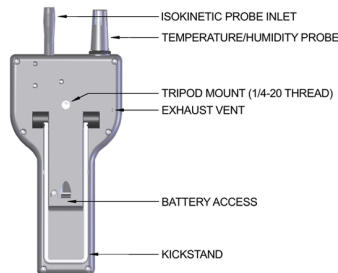
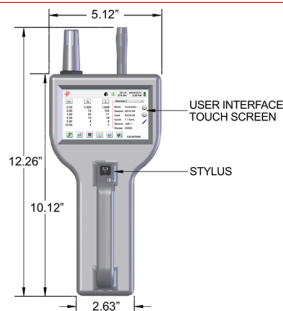
Audible and Visual Alarm Management



Real-Time Meter Pinpoints Particles Sources



Icon Driven Menus for Ease-of-Use



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