8303 and 8503 Handheld Airborne Particle Counters
0.1 CFM (2.83 LPM)

- Industry's highest concentration of 30,000,000 particles/ft³ @ 10% coincidence loss
- Ideal for use in cleanrooms, industrial health and safety, and air quality applications
- >10 hours continuous operation on a fully charged battery
- Industry's first Sleep Mode and Power Conservation Mode with Intelligent Battery
- The most comprehensive internal self-diagnostics of any handheld particle counter
- Real-Time Meter detects particle contamination sources with visual and audible indication
- Internet of Things (IoT) communication allows for network or cloud-based data options

The Particles Plus® 8303 and 8503 Handheld Particle Counters measure 0.3 or 0.5 to 25.0 μm with a flow rate of 0.1 CFM (2.83 LPM). Easy to configure, these instruments display up to 3 user-selectable size channels as well as temperature and relative humidity. View data and generate ISO 14644-1, EU GMP Annex 1 or FS 209E reports on screen or via printer, USB key, real time through its versatile output options, or export to Particles Plus® Instrument Management Software. Particles Plus® counters can be controlled and monitored remotely via web browser. The mass concentration mode approximates density in μg/m³ and allows for density and refractive index corrections to ensure accuracy.

All Particles Plus® counters meet ISO 21501-4 and JIS B9921. The 8303 and 8503 ensure compliance with an on-board pulse height analyzer.
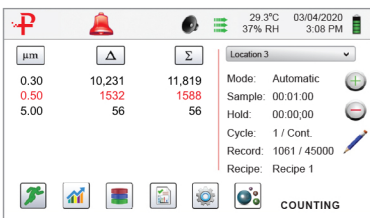
Features and Benefits
- 8303: Measures 0.3 μm to 25 μm
- 8503: Measures 0.5 μm to 25 μm
- 0.1 CFM (2.83 LPM) flow rate
- Long life laser diode technology
- Measures up to 3 channels of simultaneous data
- Approximates mass concentration in μg/m³ with density and refractive index corrections
- Integrated handle for one-handed operation
- Large easy-to-use icon driven color 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 allows user to save 32 character notations to a sample record
- Easy configuration and transferable from instrument to instrument
- Connect using USB or (optional) Ethernet, Wireless 802.11 b/g
- Displays user-definable reports for ISO 14644-1, EU GMP Annex 1 and FS 209E
- 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
- Seamless integration into a facility monitoring system
- Lightweight high-impact injection molded plastic enclosure
- 1 year limited warranty. Extended warranties available.
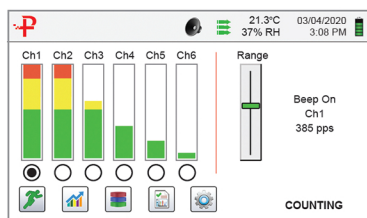
Optional Features and Benefits
- Temperature and relative humidity probe
- Ethernet, Wireless 802.11 b/g, RS485 or RS232 output
- Additional 3 size channels (easily added at any later time)
- External printer and printing option

Specifications

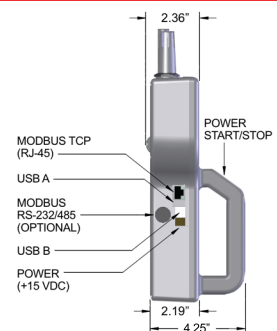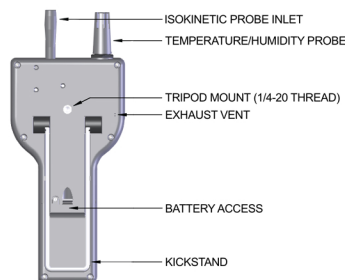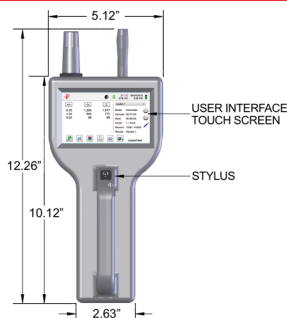| Models	8303	8503
Size Range	0.3 to 25 µm	0.5 to 25 µm
Size Channels	Factory calibrated at 0.3, 0.5, 5.0 µm	Factory calibrated at 0.5, 1.0, 5.0 µm
Counting Efficiency	50% @ 0.3 µm; 100% for particles >0.45 µm per JIS	50% @ 0.5 µm; 100% for particles >0.75 µm per JIS
Flow rate	0.1 CFM (2.83 LPM)	
Concentration Limit	30,000,000 Particles/ft³ @ 10% coincidence loss	
Battery Run Time	>10 hours continuous operation	
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	
Printer	(Optional) external thermal printer available	
Vacuum Source	Internal pump with automatic flow control	
Filtered Exhaust	Internal HEPA filter	
Number of Channels	3	
Custom Size Channels	Calibration for custom size channels available	
Audible Alarm	Adjustable built-in alarm	
Battery	Removable Li-ion	
Battery 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	USB. (Optional) Ethernet, Wireless 802.11 b/g, RS485 or RS232.	
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	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, purge filter, battery, USB cable, power supply and cable	
Optional Accessories	Printed manual, carrying case, spare battery, external battery charger, external printer, isokinetic probes, barb fittings, and 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	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

Real-Time Meter Pinpoints Particles Sources

Icon Driven Menus for Ease-of-Use

USER INTERFACE TOUCH SCREEN
STYLUS

ISOKINETIC PROBE INLET
TEMPERATURE/HUMIDITY PROBE
TRIPOD MOUNT (1/4-20 THREAD)
EXHAUST VENT
BATTERY ACCESS
KICKSTAND

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

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