PARTICLES
PLUS

3301 and 3501 Remote Airborne Particle Counters
1.0 CFM (28.3 LPM)

The Particles Plus 3000 Series Remote Particle Counters with a long life internal 1 CFM (28.3 LPM) brushless pump are the most feature-rich, advanced remote particle counters available. Easily integrated into building automation and cleanroom management systems via Ethernet, USB, RS485/RS232 or (optional) Wireless 802.11 b/g, the 3000 Series' internal vacuum pump makes installation simple and highly cost effective.

The 3000 Series remote particle counter reports 6 user-selectable particle size channels, internal flow, sensor status, date of last calibration, serial number, laser on-time and date of manufacture for easy maintenance and warranty management. Onboard self-diagnostics monitor laser power, temperature and life, pump temperature, power and flow, while monitoring all communications between each Intelligent subsystem and the internal processors. The Particles Plus MODBUS™ register map provides the most comprehensive reporting and control functions available of any remote particle counter. The user-selectable MODBUS™ protocols, including ASCII, RTU, & TCP/IP enable simple and easy connectivity to any monitoring system. The industry's most full-featured, dedicated communications controller is unsurpassed as it handles many concurrent operations such downloading records locally by USB thumb drive, while simultaneously communicating on a MODBUS network, and also serving up multiple external browser interface sessions.

These remote particle counters offer an internal memory that stores up to 45,000 time-stamped particle count data records, providing data redundancy on every instrument.

All Particles Plus counters meet ISO 21501-4 and JIS B9921. The 3301 and 3501 ensure compliance with an on-board pulse height analyzer.

Features and Benefits

- 3301: Measures 0.3 µm to 25 µm
- 3501 Measures 0.5 µm to 25 µm
- 1.0 CFM (28.3 LPM) flow rate with onboard long-life brushless vacuum pump
- Long life laser diode technology
- Measures up to 6 channels of simultaneous data
- Stores up to 45,000 sample records for on-board data redundancy
- LED Status Indication for power, service, sensor failure, and flow failure
- Connect using Ethernet, USB, RS485/RS232 or (optional) Wireless 802.11 b/g
- Static or dynamic IP address (DHCP) for easy network connectivity
- Internal audible alarm set-points per channel
- Easy configuration using IMS software utility
- Remote operation using IMS over a network or direct ethernet connection to a computer
- 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
- Light weight stainless steel enclosure
- 2 year warranty. Extended warranties available

Specifications

Models	3301	3501
Size Range	0.3 to 25 µm	0.5 to 25 µm
Size Channels	Factory calibrated at 0.3, 0.5, 1.0, 3.0, 5.0, 10.0 µm	Factory calibrated at 0.5, 0.7, 1.0, 3.0, 5.0, 10.0 µm
Flow rates	1 CFM (28.3 LPM)	
Concentration Limit	4,000,000 Particles/ft³ @ 5% coincidence loss	
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
Light Source	Long life laser diode	
Zero Count	<1 count / 5 minutes (<2 particles / ft³) (per ISO 21501-4 & JIS)	
Calibration	NIST traceable	
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	
Communication Modes	Ethernet, USB, RS485 or RS 232	
Optional Communication Modes	Wireless 802.11 b/g	
Audible Alarm	Alarms on counts for all particle sizes, sensor failure 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)	12.5" x 5.5" x 4.5" (23.5 cm x 14.0 cm x 11.5 cm)	
Weight	8.1 lb (3.7 kg)	
Accessories	Quick start guide, operating manual and IMS configuration utility on USB flash drive, 1/4" threaded barbed fitting, power supply & cable	
Optional Accessories	Purge filter, Wireless 802.11 b/g output with antenna, USB cable, isoprobe barbed, isoprobe threaded with seal nut, inlet barbed fitting with seal nut, isoprobe cap, isoprobe adapter, tripod, data cable, tubing, printed manual and validation manual	
Buffer Memory	45,000 sample records (rotating buffer)	
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 Years. Extended warranties available.	