

Airnet® II

Particle Sensor



The Airnet II particle sensor is the latest product that makes it easy and cost effective to monitor your cleanroom for proper operation. These particle sensors offer a small footprint, unparalleled performance and data transmission capabilities while meeting the specification of ISO 21501-4.

Installation is simplified with versatile power options such as the use of distributed power from an in-house system, local power plug in capabilities and the ability to use Power over Ethernet (PoE). Communication capabilities include the use of Ethernet communications to interface with Pharmaceutical Net or Facility Net, optional OPC communications or the ability to provide an optional 4-20 mA output.

Data integrity is maintained through the use of a data queue feature that will continue to gather data even if communications is lost. These units incorporate a Dynamic Flow Sensing system that will alarm with a 15% change in flow conditions to assure proper flow conditions and vacuum system operation.

For situations where Vaporized Hydrogen Peroxide (VHP) is used for sterilization, an optional VHP compatible unit is available.



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BENEFITS

Reduce Defects

- Real-time monitoring of defect-causing particles
- Proven technology provides reliable and accurate data
- Users can react immediately to particle contamination events
- Meets ISO 21501-4

Increase Productivity

- Low cost solution for multipoint monitoring
- Interfaces with Facility Net or Pharmaceutical Net software for comprehensive management of cleanroom conditions
- System validation documentation available

Cost Effective

- Small footprint and flexible mounting options make it easy to install in cleanrooms and minienvironments
- Easy to clean/wipe down; designed to minimize particle traps
- Rugged, chemical resistant Polycarbonate (PC) enclosure
- Diode laser reduces maintenance
- Automatic laser shutdown reduces laser failures
- Data queue maintains data integrity when communication is lost
- Power over Ethernet (PoE) simplifies installations
- Optional 4-20 mA output for integration with existing systems
- Optional OPC communications reduces integration costs
- Optional XR coating protects sensor against corrosive or oxidizing vapors

APPLICATIONS

- Cleanroom monitoring
- Dedicated monitoring of critical locations
- Trend analysis
- Statistical process control
- Multi-location monitoring

Without measurement, there is no control.

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specifications

	301/ 301 OPC	501/ 501 OPC	510/ 510 OPC	510XR/ 510XR OPC
Size range (µm)	0.3, 0.5	0.5, 5.0 ¹	0.5, 5.0	0.5, 5.0
Flow rate	0.1 CFM (2.8 LPM)	0.1 CFM (2.8 LPM)	1.0 CFM (28 LPM)	1.0 CFM (28 LPM)
Counting efficiency ²	50% ± 20% for most sensitive channel. Meets ISO 21501-4 100% ± 10% at 1.5 to 2.0 times channel one size. Meets ISO 21501-4			
Zero count	≤70.7counts/m3	≤70.7counts/m3	≤7.07counts/m3	≤7.07counts/m3
Maximum concentration ³	5,100,000/ft. ³	8,600,000/ft. ³	860,000/ft. ³	860,000/ft. ³
Laser source	Diode			
Laser classification	Class 1 per EN60825 (Internally, a Class IIIB laser is used, per EN60825.)			
Exterior surface	Polycarbonate			
Dimensions (l, w, h)	5.3 x 3.6 x 3.8 in. 13.5 x 8.9 x 9.6 cm	5.3 x 3.6 x 3.8 in. 13.5 x 8.9 x 9.6 cm	5.3 x 3.6 x 3.8 in. 13.5 x 8.9 x 9.6 cm	5.3 x 3.6 x 3.8 in. 13.5 x 8.9 x 9.6 cm
Weight	1.6 lbs. (.73 kg)	1.6 lbs. (.73 kg)	1.6 lbs. (.73 kg)	1.6 lbs. (.73 kg)
Sample probe or tubing	1/4" ID	1/4" ID	1/4" ID	1/4" ID
Flow system	External vacuum 1/4" connection; automatic laser shutoff and alarm on 15% (± 5%) flow variation.			
Vacuum source	> 12 in. Hg	> 12 in. Hg	> 12 in. Hg	> 12 in. Hg
Power	24 VDC (0.5 A) 100-240 VAC ± 10%, 50-60 Hz, Power Supply (optional) or use of Power over Ethernet 48 VDC via a PoE router.			
Communication connectors	Ethernet requiring cable type CAT 5 UTP, and RS-232 (configuration and diagnostic tool only, no data) Data queue on loss of communications. 4-20 mA (optional) (three output channels: two particle data, one instrument status), Optional OPC communications available.			
Status indicators	Facility Net interface: Programmable status (two-color LED), Activity (one-color LED) 4-20 mA interface (optional): Laser and flow status (two-color LED), Activity (one-color LED) OPC interface (optional): Laser and flow status (two-color LED), Activity (one-color LED)			
Calibration	Calibration materials used are traceable to the National Institute for Standards and Technology (NIST) and meet ISO 21501-4 requirements.			
Environment	Temperature: 4-35 °C, 5-95%: non-condensing relative humidity			

¹ Airnet 501A has 0.5 and 1.0 µm channels.

² Allow 15% (± 5%) variations in sample flow.

³ 10% coincidence loss at maximum concentration.

Airnet® is a registered trademark of Particle Measuring Systems, Inc.

US Patent 7088447. US Patents Pending.

Particle Measuring Systems, Inc. reserves the right to change specifications without notice.

CE Registration applies to the Boulder, Colorado facility.

AUTHORIZED REPRESENTATIVE



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