

Airnet® II

2 Channel Particle Sensor

Without measurement there is no control.



The Airnet II particle sensor makes it easy and cost-effective to monitor your cleanroom. This particle sensor offers a small footprint, unparalleled performance, and data transmission capabilities while meeting the specification of ISO 21501-4.

Installation is simplified with versatile power options. The unit can be configured to accept distributed power from an in-house system, local power plug-in, or Power over Ethernet (PoE). Communication capabilities include Ethernet to interface with Pharmaceutical Net, Facility Net, or FacilityPro® software, OPC communications, Modbus communications, or optional 4-20 mA output.

Data integrity is maintained through the use of a data queue feature that continues to gather data even if communication is lost.

To assure proper flow conditions and vacuum system operation, these units incorporate a Dynamic Flow Sensing system that will alarm with a 15% change in flow conditions.

For situations where sampling is required during the Vaporized Hydrogen Peroxide (VHP) sterilization process, an optional VHP-compatible unit is available for a simple installation without complex valving.

BENEFITS

Reduce Defects

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

Increase Productivity

- Low-cost solution for multipoint monitoring
- Interfaces with Facility Net, Pharmaceutical Net, or FacilityPro 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
- OPC or Modbus communications reduces integration costs
- Optional 4-20 mA output for integration with existing systems
- Optional XR coating protects sensors against corrosive or oxidizing vapors in VHP sterilization processes
- Optional stainless steel enclosures through the IsoAir® unit are available

APPLICATIONS

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

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specifications

	301	501/501A	510	510XR
Size range	0.3, 0.5 µm	0.5, 5.0 µm ¹	0.5, 5.0 µm	0.5, 5.0 µm
Flow rate	0.1 CFM (2.8 LPM)	0.1 CFM (2.8 LPM)	1.0 CFM (28.3 LPM)	1.0 CFM (28.3 LPM)
Counting efficiency	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/m ³	≤ 70.7counts/m ³	≤ 7.07counts/m ³	≤ 7.07counts/m ³
Maximum concentration²	5,695,168/ft ³	9,578,238/ft ³	957,824/ft ³	957,824/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 lb (0.73 kg)			
Sample probe or tubing	1/4" ID			
Flow system	External vacuum 1/4" connection; automatic laser shutoff and alarm on 15% flow variation			
Vacuum source	> 11 in Hg	> 11 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 (Particle Measuring Systems proprietary protocol, OPC, Modbus TCP) RS-232 (configuration and diagnostic tool only, no data) 4-20 mA (optional) (3 output channels: 2 particle data, 1 instrument status)			
Status indicators	Programmable status (two-color LED), Activity (one-color LED)			
Calibration	Calibration materials used are traceable to the National Institute of Standards and Technology (NIST) and meet ISO 21501-4 requirements			
Environment	Temperature: 4 – 35 °C, 5 – 95%: non-condensing relative humidity			
Complies with	EU RoHS, ISO 21501-4			

¹ Airnet 501A has 0.5 and 1.0 µm channels.

² 10% coincidence loss at maximum concentration.

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