Airnet® II

2 Channel Particle Sensor

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 and ISO 14644-1:2015.

Simple installation 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, 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 network communication is lost.

To ensure 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 applications where decontamination using Vaporized Hydrogen Peroxide (VHP) is required, an optional VHP-compatible unit is available for a simple installation without complex valving (Airnet 510XR).

BENEFITS

- Proven technology provides reliable and accurate data
- Allows for immediate reaction to particle contamination events
- A low-cost solution for multipoint monitoring
- Interfaces with Facility Net, Pharmaceutical Net and FacilityPro Software for comprehensive management of cleanroom conditions
- A small footprint and flexible mounting options make it easy to install in cleanrooms and mini-environments
- A laser diode (LD) drastically reduces the need for maintenance and extends product lifecycle
- Automatic laser shutdown reduces laser failures
- Data queue maintains data integrity when communication is lost
- Optional 4-20 mA output for integration with existing systems to help you understand your environment and communicate with other systems
- Optional XR coating protects sensors against corrosive or oxidizing vapors in VHP sterilization processes

FEATURES

- 2 channels
- 0.5 and 5.0 µm size range, suitable for Pharmaceutical application
- 1.0 CFM flow rate
- Interfaces with Modbus communications and optional 4-20 mA output
- Chemical-resistant polycarbonate (PC) enclosure
- Low sample point cost
- Small enough for use in remote locations
- ISO14644-1:2015 Compliant

APPLICATIONS

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

PARTICLE MEASURING SYSTEMS®
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Without measurement there is no control

	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	≤ 70.7 counts/m³	≤ 70.7 counts/m³	≤ 7.07 counts/m³	≤ 7.07 counts/m³
Maximum Concentration[2]	5,695,168/ft³	9,578,238/ft³	957,824/ft³	957,824/ft³
Laser Source	Diode			
Laser Classification	Class 1 per EN60825 (Internally, a Class IIIB laser is used, per EN60825)			
Exterior Surface	Polycarbonate			
Dimensions (H x W x L)	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)	1.6 lb (0.73 kg)	1.6 lb (0.73 kg)	1.6 lb (0.73 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% flow variation			
Vacuum Source	> 11 in Hg (> 375 mBar) below atm pressure	> 11 in Hg (> 375 mBar) below atm pressure	> 15 in Hg (> 410 mBar) below atm pressure	> 15 in Hg (> 410 mBar) below atm pressure
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, 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, ISO 14644-1:2015			

[1] Airnet II 501A has 0.5 and 1.0 μm channels.

[2] 10% coincidence loss at maximum concentration.

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