

# Airnet<sup>®</sup> II

4 Channel Particle Sensor



The Airnet II 4-Channel 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<sup>®</sup> 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 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.

## 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

## FEATURES

- 4 channels
- 0.2 and 10.0  $\mu\text{m}$  size range
- 0.1 and 1.0 CFM flow rate
- Interfaces with object linking and embedding (OLE) for process control (OPC) communications, Modbus communications and optional 4-20 mA output
- Chemical-resistant polycarbonate (PC) enclosure
- Low sample point cost
- Small enough for use in remote locations
- Includes system validation documentation
- 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<sup>®</sup>**  
- spectris company

*Without measurement there is no control*

# Airnet<sup>®</sup> II

4 Channel Particle Sensor

Specifications

|  | 201-4   | 301-4                        | 310-4                        | 501-4                        | 510-4                        |
|--|---|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>Size Range (µm)</b>                   | 0.2, 0.3, 0.5, 1.0  | 0.3, 0.5, 1.0, 5.0           | 0.3, 0.5, 1.0, 5.0           | 0.5, 1.0, 5.0, 10.0          | 0.5, 1.0, 5.0, 10.0          |
| <b>Flow Rate</b>                         | 0.1 CFM<br>(2.8 LPM)  | 0.1 CFM<br>(2.8 LPM)         | 1.0 CFM<br>(28.3 LPM)        | 0.1 CFM<br>(2.8 LPM)         | 1.0 CFM<br>(28.3 LPM)        |
| <b>Counting Efficiency</b>               | 50% ± 20% for most sensitive channel. Meets ISO 21501-4<br>100% ± 10% at 1.5 to 2.0 times channel one size. Meets ISO 21501-4   |                              |                              |                              |                              |
| <b>Zero Count</b>                        | ≤ 70.7 counts/m <sup>3</sup>  | ≤ 70.7 counts/m <sup>3</sup> | ≤ 7.07 counts/m <sup>3</sup> | ≤ 70.7 counts/m <sup>3</sup> | ≤ 7.07 counts/m <sup>3</sup> |
| <b>Maximum Concentration<sup>1</sup></b> | 5,057,310 /ft <sup>3</sup>  | 4,862,798 /ft <sup>3</sup>   | 702,404 /ft <sup>3</sup>     | 7,437,220 /ft <sup>3</sup>   | 890,371 /ft <sup>3</sup>     |
| <b>Laser Source</b>                      | Diode   |                              |                              |                              |                              |
| <b>Laser Classification</b>              | Class 1 per EN60825 (Internally, a Class IIIB laser is used, per EN60825)   |                              |                              |                              |                              |
| <b>Exterior Surface</b>                  | Polycarbonate   |                              |                              |                              |                              |
| <b>Dimensions (H x W x L)</b>            | 3.8 x 3.6 x 5.3 in<br>(9.6 x 8.9 x 13.5 cm)   |                              |                              |                              |                              |
| <b>Weight</b>                            | 1.6 lb (0.73 kg)  |                              |                              |                              |                              |
| <b>Sample Probe or Tubing</b>            | 1/4" ID   |                              |                              |                              |                              |
| <b>Flow System</b>                       | External vacuum 1/4" connection<br>Automatic laser shutoff and alarm on 15% flow variation  |                              |                              |                              |                              |
| <b>Vacuum Source</b>                     | > 12 in Hg required   |                              |                              |                              |                              |
| <b>Power</b>                             | Power over Ethernet (PoE) via PoE router (48 VDC) or PoE power injector<br>Optional 24 VDC (0.5 A) power input  |                              |                              |                              |                              |
| <b>Communication Connectors</b>          | Ethernet (Particle Measuring Systems proprietary protocol, OPC, Modbus TCP)<br>Optional 4-20 mA (5 output channels: 4 particle data, 1 instrument status)<br>RS-232 (configuration and diagnostic only) |                              |                              |                              |                              |
| <b>Status Indicators</b>                 | Programmable status (two-color LED), Activity (one-color LED)   |                              |                              |                              |                              |
| <b>Calibration</b>                       | Calibration materials used are traceable to the National Institute for Standards and Technology (NIST) and meet ISO 21501-4 requirements  |                              |                              |                              |                              |
| <b>Environment</b>                       | Temperature: 39 – 95 °F (4 – 35 °C)<br>Relative humidity: 5 – 95%, non-condensing   |                              |                              |                              |                              |
| <b>Complies With</b>                     | EU RoHS, ISO 21501-4  |                              |                              |                              |                              |

<sup>1</sup>Greater than 90% accuracy (less than 10% coincidence loss)  
at maximum recommended concentration.

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