



**PARTICLES**  
PLUS®

## 2301 and 2501 Remote Airborne Particle Counters 0.1 CFM (2.83 LPM)

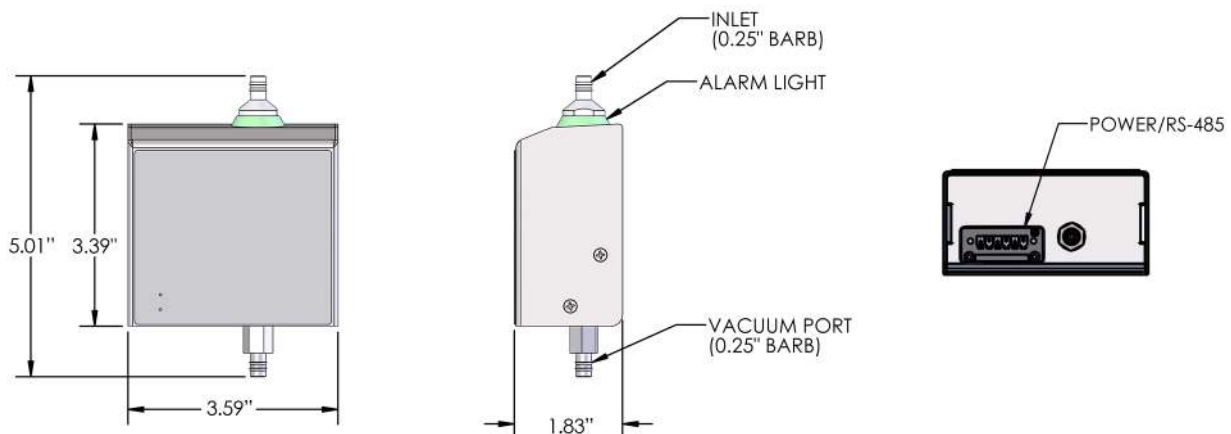


The 2301 and 2501 particle counters provide a range of particle size measurement from 0.3 or 0.5 to 25.0  $\mu\text{m}$  at a flow rate of 0.1 CFM (2.83 LPM). These sensors allow for efficient particle counting with specifications that exceed the ISO 21501-4 and JIS B9921 calibration standards.

These sensors have 4 fixed particle size channels and are equipped with an integral critical orifice and flow sensor to provide a stable flow rate from an external vacuum source. Integration into a building automation or facility monitoring system is easy via isolated RS-485 Modbus communication.

### 2301 and 2501: Features and Benefits

- 2301: Measures 0.3  $\mu\text{m}$  to 25  $\mu\text{m}$
- 2501: Measures 0.5  $\mu\text{m}$  to 25  $\mu\text{m}$
- 0.1 CFM (2.83 LPM) flow rate
- Long life laser diode technology
- Measures up to 4 channels of simultaneous data
- Accurate in high particle concentration environments
- Internal critical orifice
- Connect using Modbus RTU/ASCII over isolated RS-485
- Complies with ISO 21501-4 and JIS B9921 standards
- Easy to clean and wipe down with minimal particle traps
- Versatile mounting options
- Alarm light
- LED Indicators
- Seamless integration into a facility monitoring system
- Lightweight stainless steel enclosure
- 2 year warranty. Extended warranties available.





## Specifications

| Model                  | 2301  | 2501  |
|------------------------|---|---|
| Size Range             | 0.3 $\mu\text{m}$ to 25 $\mu\text{m}$   | 0.5 $\mu\text{m}$ to 25 $\mu\text{m}$                                     |
| Size Channels          | Factory calibrated at 0.3, 0.5, 1.0, and 5.0 $\mu\text{m}$  | Factory calibrated at 0.5, 1.0, 2.5, and 5.0 $\mu\text{m}$                |
| Number of Channels     | 4 channels  | 4 channels  |
| Counting Efficiency    | 50% @ 0.3 $\mu\text{m}$ ; 100% for particles > 0.45 $\mu\text{m}$ per JIS   | 50% @ 0.5 $\mu\text{m}$ ; 100% for particles > 0.75 $\mu\text{m}$ per JIS |
| Flow Rate              | 0.1 CFM (2.83 LPM)  |   |
| Concentration Limits   | 10,000,000 particles/ft <sup>3</sup> @ 10% coincidence (per ISO 21501-4),<br>20,000,000 particles/ft <sup>3</sup> @ 10% coincidence (as tested and validated <sup>1</sup> ) |   |
| Light Source           | Long life laser diode   |   |
| Zero Count             | < 1 count / 60 minutes (< 1 particles /6 ft <sup>3</sup> )  |   |
| Calibration            | NIST traceable  |   |
| Vacuum Requirements    | External vacuum > 15" (38.1cm) of Hg  |   |
| Airflow                | Internally monitored  |   |
| Alarm                  | User configurable alarm light   |   |
| Communication Modes    | MODBUS™ RTU or ASCII outputs (over isolated RS-485)   |   |
| Standards              | ISO 21501-4 and JIS B9921   |   |
| Instrument Calibration | Recommended minimum once per year   |   |
| External Surface       | Stainless steel   |   |
| Dimensions (L x W x H) | 3.59" x 1.83" x 5.01" (9.1 cm x 4.6 cm x 12.7 cm) including probes and connectors   |   |
| Weight                 | 1.65 lb. (0.75 kg)  |   |
| Accessories            | Wiring Connector, operating manual on USB flash drive   |   |
| Optional Accessories   | Power Supply, Remote Mounting Bracket, Stainless Steel Barbed Isoprobe (0.1 CFM/2.83 LPM), Purge Filter Assembly, and Sample & Vacuum Tubing                                |   |
| Sample Time            | 1 second to 18 hours  |   |
| Power                  | 9 - 24 VDC (< 2.5 watts)  |   |
| 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 year limited warranty. Extended warranties available.   |   |

1- Validated by independent analysis see paper available at [www.particlesplus.com/aac2022\\_paper](http://www.particlesplus.com/aac2022_paper)