

# 5301-AQM1 and 5301-AQM2 Air Quality Monitors

## PM, CO<sub>2</sub>, Temperature, RH, and TVOC



The Particles Plus® 5301-AQM1 and 5301-AQM2 Remote Particle Counters measure particles from 0.3 to 25.0 µm at a flow rate of 0.1 CFM (2.83 LPM). These user-friendly instruments display up to six particle size channels, temperature, relative humidity, and CO<sub>2</sub> (AQM1) or CO<sub>2</sub> + TVOC (AQM2).

Designed for research, industrial hygiene, indoor air quality, and cleanroom applications, the 5000 Series offers exceptional versatility. From the cleanest labs to the dirtiest worksites, confidently monitor any environment thanks to the industry's highest particle concentration limits.

One of the key advantages of the 5000 Series as a remote particle counter is its built-in touchscreen display. It provides real-time visual feedback for technicians working in critical areas, enabling immediate identification of elevated particle counts. Adjustable audible alarms offer an additional layer of awareness in critical environments.

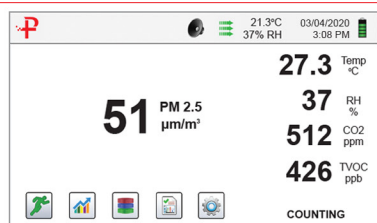
Data can be managed directly on the device or through the free Particles Plus® software. Export raw data in .CSV format or generate compliant reports (ISO 14644-1, EU GMP Annex 1, or FS 209E). Remote diagnostics are also available from anywhere with an internet connection. The 5000 Series can function as a fully portable, battery-operated solution or be easily integrated into building automation and cleanroom management systems with multiple communication options.

### Features and Benefits

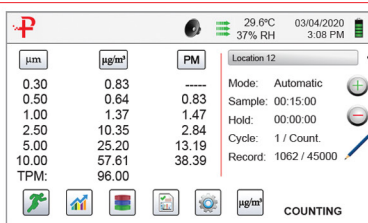
- Measures up to six particle size channels simultaneously
- Long-life laser diode technology for reliable performance
- Approximates mass concentration with density and refractive index corrections
- Large, icon-driven color touchscreen display for easy operation
- Includes temperature and relative humidity probe
- User selectable PM sizes from 0.3 µm to 10 µm including TPM of up to 25.0 µm
- Stores up to 45,000 sample records, 1,000 locations, and 50 sampling recipes
- Annotation feature allows users to save 32-character notes with sample records
- Ethernet, USB, RS485, RS232, and wireless (802.11b/g) communication options
- Troubleshoot and diagnose issues remotely from anywhere with an internet connection
- Generate and export reports for ISO 14644-1, EU GMP Annex 1, and FS 209E
- Built-in audible and visual alarms for real-time alerts
- Complies with ISO 21501-4 and JIS B9921 standards
- Seamlessly integrates into facility monitoring and building automation systems
- Easy to clean, lightweight stainless steel enclosure with minimal particle traps
- 2 Year Limited Warranty (Extended and Lifetime Warranties available)

## Specifications

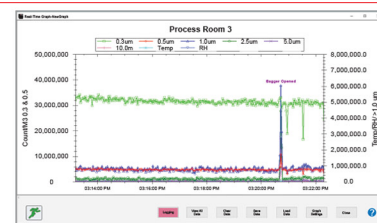
<b>Model</b>	<b>5301-AQM1 and 5301-AQM2</b>
<b>Size Range</b>	0.3 to 25 $\mu\text{m}$
<b>Size Channels</b>	Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 $\mu\text{m}$ variable binning
<b>Flow rates / Accuracy</b>	0.1 CFM (2.83 LPM) / $\pm 3\%$ or 1.2 LPM $\pm 3\%$
<b>Aerosol Concentration Range</b>	0.01 to 20,000 $\mu\text{g}/\text{m}^3$
<b>Light Source</b>	Long life laser diode
<b>Resolution</b>	0.00003 $\mu\text{g}/\text{m}^3$
<b>Zero Stability</b>	No appreciable drift
<b>Count Modes</b>	Real-Time Meter and graph, cumulative/differential count/ $\text{m}^3$ and count/ $\text{ft}^3$ , and mass concentration (PM)
<b>Log Interval</b>	Minimum 1 second with no hold time, maximum 99 hours
<b>Calibration</b>	NIST traceable
<b>Display</b>	4.3" (10.9 cm) WQVGA (480×272) color touch screen
<b>Printer</b>	(Optional) External thermal printer available
<b>Vacuum Source</b>	Internal pump with automatic flow control
<b>Filtered Exhaust</b>	Internal HEPA filter
<b>Number of Channels</b>	6
<b>Custom Size Channels</b>	Calibration for custom size channels available
<b>Audible Alarm</b>	Adjustable built-in alarm
<b>Communication Modes</b>	Ethernet, USB. (Optional) Wireless 802.11 b/g, RS485 or RS232.
<b>Environmental Sensors</b>	Includes NDIR CO <sub>2</sub> (0-5000 ppm, resolution 1 ppm, accuracy $\pm 1\%$ FS, Response rate 20 seconds), temperature and relative humidity probe 32° to 122°F (0° to 50°C) $\pm 1^\circ\text{F}$ (0.5°C), 15-90% $\pm 2\%$ RH
<b>5301-AQM1</b>	
<b>Environmental Sensors</b>	Includes all sensors in the 5301-AQM1 and TVOC PID (standard on the 5301-AQM2), 0-50 ppm / minimum detection level 5 ppb, accuracy $\pm 1.5\%$ , Response rate <3 seconds
<b>5301-AQM2</b>	
<b>Alarm</b>	Alarms on counts for all particle sizes, low battery, sensor failure, environmental sensors and flow
<b>Standards</b>	ISO 21501-4 and JIS B9921
<b>Instrument Calibration</b>	Recommended minimum once per year. Gases, temperature and humidity sensors field calibratable.
<b>External Surface</b>	Stainless steel
<b>Dimensions (L x W x H)</b>	5.22 x 3.81 x 9.42 in (13.3 x 9.7 x 23.9 cm) includes barb fittings
<b>Weight</b>	4 lb (1.8 kg)
<b>Accessories</b>	User manual + Instrument Management Software (IMS) on USB flash drive, isokinetic probe, temperature relative humidity sensor, purge filter, battery, USB cable, and power supply
<b>Optional Accessories</b>	Printed manual, carrying case, spare battery, external battery charger, external printer, barbed fittings, and sample tubing
<b>Data Storage</b>	45,000 sample records (rotating buffer) including particle count data, environmental data, locations, annotations, and times. Scrollable on screen or printout.
<b>Sample Time</b>	1 second to 99 hours
<b>Power</b>	110 to 240 VAC 50/60 Hz universal in-line power supply
<b>Operating Conditions</b>	41-104°F (5-40°C) / 20% to 95% non-condensing
<b>Storage Conditions</b>	32-122°F (0-50°C) / Up to 98% non-condensing
<b>Warranty</b>	2 Year Limited Warranty (Extended and Lifetime Warranties available)



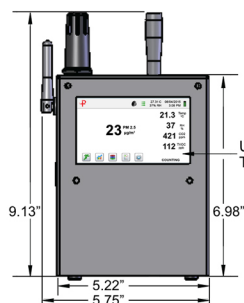
Configurable Environmental Sensor Display



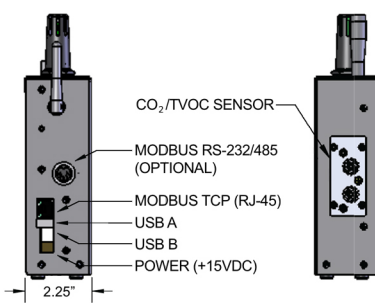
Simultaneous Display of Multiple PM Sizes



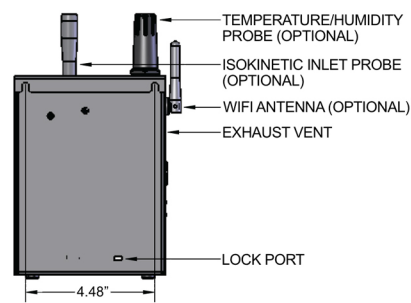
Control and Manage Remotely with IMS



USER INTERFACE TOUCH SCREEN



CO<sub>2</sub>/TVOC SENSOR  
MODBUS RS-232/485 (OPTIONAL)  
MODBUS TCP (RJ-45)  
USB A  
USB B  
POWER (+15VDC)



TEMPERATURE/HUMIDITY PROBE (OPTIONAL)  
ISOKINETIC INLET PROBE (OPTIONAL)  
WIFI ANTENNA (OPTIONAL)  
EXHAUST VENT  
LOCK PORT

PAT. <https://particlepatents.com/> Additional Patents Pending.  
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REV 20250627-5301-AQM1/5301-AQM2



1490 Central Street  
Stoughton, MA 02072 U.S.A.  
+1-781-341-6898  
[www.particlesplus.com](http://www.particlesplus.com)