

## 5301-AQM1 and 5301-AQM2 Air Quality Monitors

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

- Industry's highest concentration of up to 27,000,000 particles/ft³ @ 10% coincidence loss
- Ideal for use in research, industrial health and safety, indoor air quality, and cleanroom applications
- Industry's first Sleep Mode and Power Conservation Mode with Intelligent Battery
- The most comprehensive internal self-diagnostics of any handheld particle counter
- Real-Time Meter detects particle contamination sources with visual and audible indication
- Internet of Things (IoT) communication allows for network or cloud-based data options



The Particles Plus® 5301-AQM1 and 5301-AQM2 Remote Air Quality Monitor measures and displays particle mass concentrations for  $PM_{1.0}$ ,  $PM_{2.5}$ ,  $PM_{5.0}$  and  $PM_{10}$  including temperature, relative humidity,  $CO_2$  (and TVOC in the 5301-AQM2). This wall- mounted instrument is the most versatile remote air quality monitor available for fixed installations. The advanced power management and the industry's first sleep mode, allows for long intervals between samples over extended and unattended operations. The AQM Series can easily integrate into a building automation and facility monitoring system via Ethernet, USB or (optional) Wireless 802.11 b/g, RS485 or RS232.

The AQMs report and display 6 user-selectable particle size channels, as well as carbon dioxide ( $\rm CO_2$ ), temperature, and relative humidity. The model 5301-AQM2 includes a PID Sensor for TVOC. The instrument monitors  $\rm PM_{1.0}$ ,  $\rm PM_{2.5}$ ,  $\rm PM_{5.0}$ ,  $\rm PM_{10}$  and TPM. An easy-to-use Channel Management control panel allows user defined channel sizes.

## **Features and Benefits**

- Measures 0.3 µm to 25.0 µm
- 0.1 CFM (2.83 LPM) or 1.2 LPM flow rate
- · Large easy-to-use icon driven color touch screen display
- Approximates mass concentration in µg/m³ with density and refractive index corrections
- · User-selectable, adjustable particle channel sizes
- 5301-AQM1 measures CO<sub>2</sub>, temperature and humidity. The 5301-AQM2 includes TVOC.
- Stores up to 45,000 sample records
- · Connect using Ethernet, USB or (optional) Wireless 802.11 b/g, RS485 or RS232
- · Static or dynamic IP address (DHCP) connects to a local network or the Internet
- Seamless integration into a facility monitoring system with MODBUS RTU, ASCII or TCP
- Internet of Things JSON output allows for cloud based data storage and retrieval
- · Included software permits remote operations, data management, diagnostics and more
- · Displays and externally prints information with optional printer
- Internal audible alarm with user selectable thresholds for all environmental parameters
- · Easy configuration and transferable from instrument to instrument
- User friendly field calibration with single or dual point offsets for all sensors
- Remote diagnostics allows for remote service investigation through the Internet
- · User-selectable channel sizes
- · Long life laser diode technology
- · Lightweight high-impact injection molded plastic enclosure
- 2 year limited warranty. Extended warranties available.

## **Specifications**

Model 5301-AQM1 and 5301-AQM2

Size Range 0.3 to 25 µm

Size Channels Factory calibrated at 0.3, 0.5, 1.0, 2.5, 5.0, 10.0 µm variable binning

Flow rates / Accuracy  $0.1 \text{ CFM} (2.83 \text{ LPM}) / \pm 3\% \text{ or } 1.2 \text{ LPM} \pm 3\%$ 

Aerosol Concentration Range0.01 to 20,000 μg/m³Light SourceLong life laser diodeResolution0.00003 μg/m³Zero StabilityNo appreciable drift

Count Modes Real-Time Meter and graph, cumulative/differential count/m³ and count/ft³, and mass concentration (PM)

Log Interval Minimum 1 second with no hold time, maximum 99 hours

Calibration NIST traceable

Display 4.3" (10.9 cm) WQVGA (480×272) color touch screen

Printer (Optional) External thermal printer available Vacuum Source Internal pump with automatic flow control

Filtered Exhaust Internal HEPA filter

Number of Channels 6

Custom Size Channels Calibration for custom size channels available

Audible Alarm Adjustable built-in alarm

Communication Modes Ethernet, USB. (Optional) Wireless 802.11 b/g, RS485 or RS232.

Environmental Sensors Includes NDIR CO<sub>2</sub> (0-5000 ppm, resolution 1 ppm, accuracy ±1% FS, Response rate 20 seconds), 5301-AQM1 temperature and relative humidity probe 32° to 122°F (0° to 50°C) ±1°F (0.5°C), 15-90% ±2% RH

Environmental Sensors Includes all sensors in the 5301-AQM1 and TVOC PID (standard on the 5301-AQM2), 0-50 ppm / minimum

5301-AQM2 detection level 5 ppb, accuracy ±1.5%, Response rate <3 seconds

Alarms on counts for all particle sizes, low battery, sensor failure, environmental sensors and flow

Standards ISO 21501-4 and JIS B9921

Instrument Calibration Recommended minimum once per year. Gases, temperature and humidity sensors field calibratable.

External Surface Lightweight high-impact injection molded plastic enclosure

Dimensions (L x W x H) 5.22" x 2.25" x 9.13" (13.3 cm x 5.7 cm x 23.2 cm) includes barb fittings

Weight 4 lb (1.8 kg)

Accessories Operating manual and IMS software on USB flash drive, isokinetic probe, temperature relative humidity

sensor, purge filter, battery, data download software, USB cable, power supply and cable

Optional Accessories Printed manual, carrying case, spare battery, external battery charger, external printer and isokinetic probes,

barbed fittings, IMS-RT monitoring system

Data Storage 45,000 sample records (rotating buffer) including particle count data, environmental data, locations,

annotations, and times. Scrollable on screen or printout.times. Scrollable on screen or printout

Sample Time 1 second to 99 hours

Power 110 to 240 VAC 50/60 Hz universal in-line power supply 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

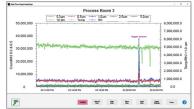
Warranty 2 Years. Extended warranties available.



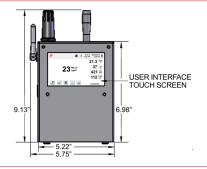
Configurable Environmental Sensor Display

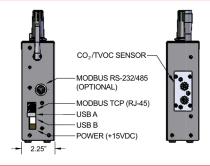


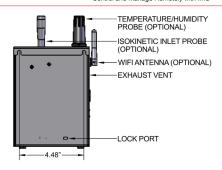
Simultaneous Display of Multiple PM Sizes



Control and Manage Remotely with IMS







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