

Ambient Aerosol Particulate Profiler

9012

Aerosol monitoring has been simplified by the Met One 9012. The 9012 has capabilities to monitor airborne particle counts or particulate mass. In either configuration six channels simultaneously measure particulate in customer configurable size ranges.

A Remarkably Flexible, Higher Performance Instrument Featuring:

- Six Real-Time Channels
- Self-Contained
- Low Power
- Low Cost
- PM1, PM2.5, PM5, PM7, PM10, TSP
- 0.3 μ m to 10 μ m
- Simple operation
- Weatherproof package

Applications Include:

- Filter Testing
- Air Quality Surverys
- IAQ Source Troubleshooting
- Emissions Sampling
- Work Place Monitoring
- Ambient Monitoring
- Remote Monitoring

Operation

The 9012 is a self-contained ambient monitor. It sizes and counts particles in six different ranges simultaneously. The precise laser optics, state of the art electronics and Polystyrene Latex Sphere calibration give the 9012 unparalleled accuracy for all ranges.



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Sample times can be configured as low as 2 seconds to quantify rapid changes in aerosol concentration.

As a mass particulate monitor, particles are detected, sized, and counted in six size ranges. Mass conversion is made using standard conversion factors. The particle mass can be display as PM1,

PM2.5, PM5, PM7, PM10 and TSP.

When configured as a particle counter, sized-based particle counts are displayed as cumulative (counts above threshold). Six size ranges are selected from 0.3 to 1.0 microns in 0.1 increments and 1-10 microns in 1 increments.



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How it Works

Using a laser-diode based optical sensor the 9012 uses light scatter technology to detect, size and count particles. This detected information can be converted into particle mass using mass density conversion factors, or may be recorded as particles per size range depending on the factory configuration of your 9012.

Installation

Installation is quick and easy with the 9012 particle counter. It can be mounted on tripod, wall mounted, bench mounted or on 1/2" diameter or larger pole. Due to its rugged weatherproof enclosure the 9012 can be installed in most indoor/outdoor environments.

Data are calculated every sampler period and outputted through the serial cable. The data can be captured by any serial device (Laptop, Palm top, Serial printer, etc.). The data can then be analyzed using standard programs such as excel.

With the optional software package data are automatically saved and graphed in real time. This software allows the remote control of the 9012. Sample time, Date/Time, Unit ID, Rolling averages, Alarm Levels, Start and Stop, and Reset commands can all be made from a laptop with the software.

SPECIFICATIONS

Measurement Principle

Optical, Light-Scatter using a Laser Diode

Detectable Particle Sizes

0.3 μm to TSP

Flow Rate

0.1 CFM (2.83 LPM)

Measuring Modes

Mass

PM1, PM2.5, PM5, PM7, PM10

Concentration

Up to 1mg/m³

Up to 10 mg/m³ (with bypass flow)

Particle Counter

0.3 μm to 10 μm (Six selected sizes)

Concentration

0-5,000,000

0-30,000,000 (with bypass flow)

Sample Interval

2 – 999 seconds (Configured by MOI)

Communication

RS232 Output

Power

12 VDC 400 mA

Temperature

0 to +50 Degrees Celsius

Weight

1 lb (0.4 kg)

Size

Diameter 4.5 in (114 mm) 6.5 in (165 mm) length

OPTIONS

Software

Real Time Datalogging and Graphing, Remote Operation, Note: these options only available with Software.

System requirements

Pentium, 100mhz, 16MB Ram

Bypass Flow

High Concentration -10% of flow is sampled 90% is bypassed.