Met One Instruments

NPM 3

NEIGHBORHOOD PARTICULATE MONITOR

FEATURES:

- Nephelometer Measurement
- Rapid Deployment
- Plug & Play Operation
- CCS+ Comet Cloud Plus Compatible
- Cloud Data Available on any Smart Device
- Cost Effective for Network Integration
- Ideal for Neighborhood Monitoring, Smart City, & IoT Applications

The Met One Instruments, Inc. NPM 3 is a forward light scatter laser nephelometer particulate monitor which automatically measures real-time airborne TSP, PM_{10}, or $PM_{2.5}$ particulate concentration levels.

The NPM 3 features improved reliability and lower maintenance. Each unit uses a serial cable that allows the device to connect to a laptop, data logger, or CCS+ Comet Cloud Modem, where the real-time data is accessible for display, logging, review, and reporting instantly or at a later time.

The monitor contains a 5-mW diode laser operating at 670 nm wavelength. A protective optical housing fully encapsulates the laser beam and optics system within the device.

Data from the NPM 3 can be managed using the supplied copy of Met One's user-friendly, Windows-based, Comet™ communications terminal software. Comet allows the user to view real-time data and log data to a data file on a computer in .csv format.

The NPM 3 is calibrated using 0.6µm NIST traceable polyspheres. These provide a critical and consistent baseline calibration. To correlate this calibration to real-world, non-spherical particulates, a Calibration Factor (K-Factor) is established by means of comparison to a collocated, trusted, and proven reference source (i.e., a BAM 1020) to ensure both accuracy and correlation.

The initial K Factor is established at the originating site. If the local particulate source changes, the K Factor may require readjustment.

The unit is supplied with a TSP head, Comet software, mounting bracket, and hose clamp.

SPECIFICATIONS

NPM 3 NEIGHBORHOOD PARTICULATE MONITOR

Measurement Range:	0 to 100 mg/m³ (0 - 100,000 µg/m³)
Measurement Sensitivity:	0.001 mg/m³
Nephelometer Accuracy:	± 5% traceable standard with 0.6µm PSL
Particle Size Sensitivity:	0.1 to 100 microns. Optimal sensitivity 0.5 to 10 micron particles.
Long Term Stability:	5% with clean optics.
Laser Type: Diode Laser	5 mW, 670 nm. Visible red.
Flow Rate:	2.0 liters/minute
Pump Type:	Brushless Diaphragm
Input Power:	Input: 11 – 40 VDC @ 1.5 A maximum.
Power Consumption:	350 mA (no heater) 1.1 A (with heater) @ 15 VDC

Temperature

Operation Range:	0 to +50°C
Storage Range:	-30°C to +50°C (-22°F to 122°F)
Humidity Range:	0 to 90% RH, non-condensing.
Humidity Control:	Automatic 12-Watt inlet heater module controlled to sample RH, with set point.
Factory Service Interval:	24 Months typical, under continuous use in normal ambient air.

Physical

Weight:	2.7 kg (6 lbs.)
Dimensions:	54.6 cm high x 38.1 cm wide x 17.8 cm deep (21.5" x 15" x 7")
Mounting Options:	Pole mount bracket standard. Optional mounting tripod.

ACCESSORIES:

- Serial & Power Cable NPM 2 to Logger, P/N 82905
- Serial & Power Cable NPM 2 to CCS Modem 2, P/N 82906
- Weather Proof Power Supply, P/N 9438-4
- 0.2 micron Purge Filter (PN 580302)
- 5.0 micron Pump Protection Filter (PN 580345)
- Sharp Cut $PM_{2.5}$ P/N SCC 112
- Sharp Cut PM_{10} P/N SCC 110
- Tripod, P/N 905

Specifications are subject to change at any time.

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