

## ES-405 Particulate Profiler

The ES-405 is a near reference air quality sensor designed to provide accurate real time measurements of PM<sub>10</sub>, PM<sub>4</sub>, PM<sub>2.5</sub>, and PM<sub>1</sub> particulate concentrations simultaneously.

Met One's ES-405 reports four key particulate concentrations in both indoor and outdoor environments, and is equipped with a rugged, weatherproof enclosure that permits use in the toughest environments for reliable, continuous operation. The inlet heater reduces moisture-related measurement error, while the sensor incorporates sheath air to prevent particles from contaminating the internal optics of the sensor. Mounting options include installation on a vertical mast or wall-mount.

All ES-405 Particulate Profilers are manufactured at an ISO-9001 facility. Calibrations are performed to NIST traceable standards.

Data output can be configured as fast as each minute, or with longer averaging intervals. Send data directly to the cloud for remote download and analysis with a CCS Modem accessory, and connect optional external meteorological sensors, as pictured here with the AIO 2 Sonic Weather Sensor.



### Standard Accessories

- External Power Cable
- USB Cable
- Weatherproof TSP inlet with debris screen
- Mounting Bracket

### Optional Accessories

- CCS Comet Cloud Modem
- AIO 2 Sonic Weather Sensor
- MSO Weather Sensor
- Tripod
- RS232 Communication Cable
- RS485 Communication Cable

### Applications:

- Air Quality Surveillance
- Rapid Source Apportionment Determination
- Emergency Responder Applications
- Near-Roadside Monitoring
- Particulate Emission Studies
- Environmental Clean Up Sites
- Obtain Localized Particulate Data for Community Health and Policy

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|----------------------------|---|
| Model Number               | ES-405  |
| Operation                  | Right angle light scatter detection, using a laser diode as light source.     |
| Measurement Resolution     | 0.1 µg/m <sup>3</sup>   |
| Number of Mass Channels    | 4 (PM <sub>1</sub> , PM <sub>2.5</sub> , PM <sub>4</sub> , PM <sub>10</sub> ) |
| Data Storage Intervals     | 1, 5, 10, 15, 30, or 60 minutes   |
| Sample Air Flow Rate       | 1.0 LPM   |
| Sheath Air Flow Rate       | 1.0 LPM   |
| Flow Control               | Active volumetric flow control  |
| Communications Connections | RS-485, RS-232, USB, Optional CCS Modem                                       |
| Operating Temperature      | 0° to +50° C  |
| Storage Temperature        | -20° to +60° C  |
| Ambient Humidity Range     | 0 to 95%, non-condensing  |
| User Interface             | Menu-driven interface with 4x20 character OLED display and dynamic keypad.    |
| Power Supply               | Universal 100-240 VAC input, 50/60Hz.   |
| Power Consumption          | 12 VDC. Max operating current 1400mA.   |
| Weight                     | 11.2 lbs.   |
| Dimensions                 | Height: 24" Width: 12" Depth: 6.75"   |
| Communications Protocol    | Terminal Command Set, Modbus 7500 Protocol                                    |

*Specifications are subject to change at any time*

