Met One Instruments, Inc.

ES-405 Particulate Profiler

The ES-405 is a near reference air quality sensor designed to provide accurate real time measurements of PM_{10}, PM_4, $PM_{2.5}$, and PM_1 particulate concentrations simultaneously.

This unit reports four key particulate concentrations in both indoor and outdoor environments. The rugged weatherproof enclosure allows it to be used in the toughest environments for reliable continuous outdoor operation. The inlet heater reduces moisture-related measurement error. The sensor incorporates sheath air to prevent particles from contaminating the internal optics of the sensor. The unit can be wall mounted or installed on a vertical mast.

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 2 accessory. External meteorological sensors can be connected to the unit.

Standard Accessories

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

Optional Accessories

- CCS Comet Cloud Modem
- AIO 2 Sonic Weather Sensor
- MSO Weather Sensor
- Tripod
- Mounting Bracket
- 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

Model Number	ES-405
Operation	Right angle light scatter detection, using a laser diode as light source.
Measurement Range	0 to 5,000 µg/m^3
Measurement Resolution	0.1 µg/m^3
Number of Mass Channels	4 (PM$_1$, PM$_{2.5}$, PM$_4$, PM$_{10}$)
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 LCD display and dynamic keypad.
Power Supply	Universal 100-240 VAC input, 50/60Hz.
Power Consumption	10.5-15.5 VDC. Max operating current 1300mA.
Serial Settings	Baud = 115200, 8 data bits, no parity, and 1 stop bit. (Factory Default) 230400, 460800,115200, 57600, 38400, 19200, 9600, 4800, 2400 (User Selectable)
Weight	8.5 lbs without power supply, 10 lbs with power supply.
Dimensions	Height: 20" Width: 10" Depth: 6"
Communications Protocol	Terminal Command Set, Modbus 7500 Protocol

Specifications are subject to change at any time

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