



# ES-412

**PORTABLE  
SIMULTANEOUS  
PARTICULATE PROFILER**

**TWO SIMULTANEOUS PM  
MEASUREMENTS IN ONE  
MONITOR**  
**REAL TIME PM<sub>2.5</sub> & PM<sub>10</sub>**



Introducing the newest addition to the Met One Instruments, Inc. line of Non-Regulatory Supplemental & Informational Monitors (NSIM), the **ES-412 Portable Simultaneous Particulate Profiler**. As a Near-FEM (Federal Equivalent Method) product, the ES-412 provides the quality and day-to-day stability consistent with EPA quality objectives. This lightweight Particulate Profiler offers wireless, remote PM monitoring in a low profile, field deployable, weatherproof unit that measures both PM<sub>2.5</sub> and PM<sub>10</sub> simultaneously.

Set up with ease for either temporary quick deployment or permanent installation, and have instant access to data on your smart phone, tablet, or computer. Data from the ES-412 is backed up internally and then transmitted to a nearby cell tower every 15 minutes. In the event of cell tower communication loss, the ES-412 will attempt communication continuously until it is regained. When this occurs, the ES-412 will transmit all missing data when communication is re-established, providing data security.

## ES-412 PORTABLE SIMULTANEOUS PARTICULATE PROFILER



- RAPID DEPLOYMENT
- INTEGRATED GPS
- HANDLE DOUBLES AS MOUNTING BRACKET
- AUTOMATICALLY CONNECTS TO LOCAL CELLULAR PROVIDER

**Transmitted data contains 15-minute averages for  $PM_{2.5}$  and  $PM_{10}$**  along with information on device power, flow, and internal diagnostics. Additionally, your custom web page dashboard offers a map showing where the unit is located with an internal GPS module. The ES-412 is a system that comes complete with cellular communications, a customized web page dashboard, a 3-year data plan, and an AC power supply.



# ES-412 PORTABLE SIMULTANEOUS PARTICULATE PROFILER

## UP & OPERATIONAL WITHIN MINUTES

1. EXTEND & SECURE  
TRIPOD LEGS.



2. REMOVE ES-412 FROM TRAVEL  
CASE & EXTEND FOLDING ANTENNA  
FROM THE HANDLE. LOCK IN PLACE.



3. MOUNT THE ES-412 ON  
TRIPOD. SECURE WITH  
LOCKING BOLT.



4. PLUG POWER CORD  
INTO RECEPTACLE IN THE  
BASE. POWER ON.



5. ES-412 PROFILER WILL  
BEGIN SAMPLING, WITH  
THE FIRST DATA SET  
TRANSMITTING TO YOUR  
COMPUTER IN 15  
MINUTES.



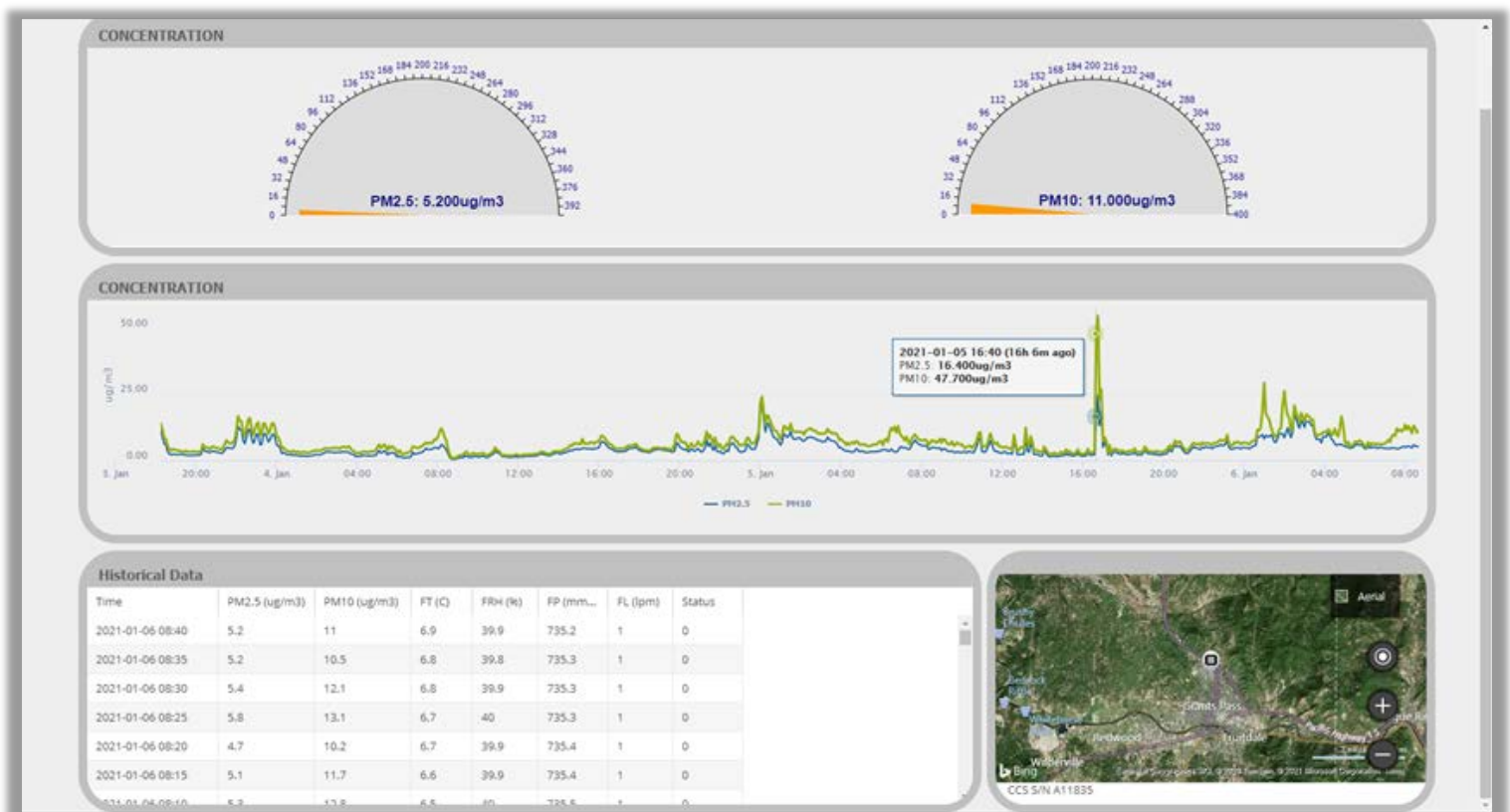
# ES-412 PORTABLE SIMULTANEOUS PARTICULATE PROFILER

## FEATURES

- Remote Data – Locally Available on Personalized Web Page
- Easy, Unlimited Data Sharing
- Real Time Sensor Status
- Plug & Play – Internal Modem is Factory Configured & Activated
- Global Connectivity with 550+ Carriers
- Initial 3-Year Data Plan Included (est. Value \$500)
- Pre-Packaged in an IP64 Enclosure
- Free Data Collection and Analysis Software
- Power Supply & Cables Included
- Folding Antenna for Compact Storage
- Lightweight, Very Transportable.
- Rapid Deployment

**EFFORTLESS DATA AT  
YOUR FINGERTIPS**

## TYPICAL DASHBOARD DATA PAGE



## OPTIONAL ACCESSORIES

- Tripod
- Mobile Battery Power Supply
- Solar Charging Panel for Extended Operation.

**CONTACT OUR SALES TEAM TODAY FOR A QUOTE:**

**SALES@METONE.COM**



## SPECIFICATIONS

# ES-412

### PARAMETER

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	2 (PM <sub>2.5</sub> , PM <sub>10</sub> )
Data Storage Intervals Sample	1, 5, 10, 15, 30, or 60 minutes
Air Flow Rate Sheath Air Flow	1.0 LPM
Rate	1.0 LPM
Flow Control Communications	Active volumetric flow control
Connections Operating	USB
Temperature Storage	0° to +50° C
Temperature Ambient	-20° to +60° C
Humidity Range	0 to 95%, non-condensing

### Electrical

Power Supply	Universal 100-240 VAC input, 50/60Hz.
Power Consumption	12 VDC. Max operating current 1400mA.

### Interface

Communication	Built-in CCS modem, Verizon™ 4G LTE (U.S. Domestic) GSM (Internationally with Over 550 Networks)
Communications Protocol	Terminal Command Set, MOI 7500 Protocol
Data Plan	3 years included

### Physical

Weight	9.5 lbs. with power supply (4.31 kg)
Dimensions	5.125 in. Wide x 31 in. Height x 8.25 in. Depth (13cm x 79cm x 21cm)

## SUPPLIED ACCESSORIES

- Operator's Manual
- Calibration Certificate (NIST)
- Power Supply
- Software Available from Website

*Specifications are subject to change at any time.*



# Met One Instruments