Simultaneous Particulate & Gas Concentration Measurement

Measures particulates in real-time

**Economical investment.**
- Particulate, gas, and photoionization detector (PID) measurement from a single device
- Less equipment to carry to job site; compact, user-friendly design

**Proven process.**
- 90 degree light scattering laser photometer measures particulates in real-time
- Proprietary technology for selecting particulate settings; no need for external cyclones
- Built in sampling pump allows for gravimetric analysis

**User Friendly.**
- Large, easy-to-read display with trend graphing for measurements
- Time history data logging and compatibility with 3M™ Detection Management Software makes analysis efficient

To find out more about 3M Detection Solutions products, see www.3M.com/Detection.

The power to protect your world.
Dual-Analysis

Outstanding Efficiency and Value

- Simultaneous measurement
  - Measures particulate mass concentrations (0.1-10 μm), select toxic gases*, select volatile organic compounds*, carbon dioxide, relative humidity, temperature, air velocity (with purchase of optional accessory).
  - Helps control equipment costs, by combining three instruments into one.

Rotary impactor
- Proprietary “dial-in” technology enables fast, easy selection of 4 different particulate size settings.
- Eliminates the need to switch out cyclones for different measurement parameters.

Built-in sampling pump
- Enables real-time measurement of particulates.

90° light-scattering laser photometer
- Allows user to easily capture particulate samples for off-site analysis.
- Identify and confirm particulate concentration in question.

* Refer to Sensor Specifications chart on page 4 for details regarding toxic sensor selection. Visit www.3M.com/detection for details regarding volatile organic compounds and toxic gas sensor selection.

Choose the Model That Best Meets Your Needs

<table>
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<tr>
<th>EVM-7 Indoor Air Quality/Particulate Monitor</th>
<th>EVM-4 Indoor Air Quality Monitor</th>
<th>EVM-3 Particulate Monitor</th>
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<tr>
<td>Temperature</td>
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<tr>
<td>Relative Humidity</td>
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<td>•</td>
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<tr>
<td>Air velocity</td>
<td>•</td>
<td>•</td>
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<tr>
<td>(with purchase of optional accessory)</td>
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<td>•</td>
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<tr>
<td>Particulates</td>
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<tr>
<td>(mass concentration)</td>
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<tr>
<td>Toxic Gas</td>
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<tr>
<td>(choose from nine sensors)</td>
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<td>•</td>
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<tr>
<td>Carbon Dioxide</td>
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<tr>
<td>Select volatile organic compounds</td>
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</tbody>
</table>

3M Detection Management Software DMS

Designed for dosimetry, sound level measurements, heat stress assessments and environmental monitoring, this advanced software helps safety and occupational professionals:

Configure.
- Configure instrumentation and save pre-configured setups

Analyze.
- Retrieve, download, share, and save instrument data
- Create charts, tables, and panels to intuitively interpret your measurements

Report.
- Generate insightful charts and reports
- Export and share recorded data

The software integrates with 3M Detection Solutions data logging instruments and will help you improve both operating efficiency and reporting in acoustics, heat stress, and environmental monitoring.

3M Detection Solutions: Brilliantly Intuitive
EVM Series Specifications

**General**

- **Display Languages:** Chinese, Czech, English, French, German, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, and Turkish
- **User Interface:** 10 pushbuttons and 4 softkeys, menu driven
- **Display Type:** Transreflective 128 x 64 LCD with backlighting
- **Software Compatibility:** 3M™ Detection Management Software DMS
- **Standards:** CE Mark and RoHS compliant
- **Particulate Impactors:** PM2.5, PM4, PM10 or TSP (within the instrument’s measurement range)
- **Flow Rate:** 1.67 L/min

**Displayed Data**

- **Measurements:** Level, Minimum, Maximum, Average, Short-Term Exposure Level (STEL), Time Weighted Average (TWA)
- **Real-Time Measurement:** Once per second display update rate
- **Time History Data Logging Intervals:** Seconds: 1, 5, 15, 30 / Minutes: 1, 5, 10, 15, 30, 60
- **Trend Graphing Intervals for All Parameters:** Minutes: 1.5, 3, 15 / Hours: 1.5, 3, 8, 12, 24
- **Status Indicators:** Battery, Run, Stop, Overload and UnderRange
- **Averaging Time:** 1 to 30 seconds

**Physical Characteristics**

- **Size:** 19 cm X 19 cm X 7 cm (7.5” X 7.5” X 2.75”)
- **Weight:** 1.3 kg (2.9 lb)
- **Housing:** Static dissipative ABS Polycarbonate housing
- **Tripod Mount:** Standard photographic mount on bottom, 1/4” - 20 screw heads

**Operating Conditions**

- **Temperature Range:** 0 °C to 50 °C (32 °F - 122 °F)
- **Pressure Range:** 65 kPa to 108 kPa
- **Relative Humidity Range:** 10% to 90% non-condensing

**Storage Conditions**

- **Temperature:** -20 °C to 60 °C (-4 °F to 140 °F)
- **Humidity:** 0% to 95% RH, non-condensing

**Electrical Characteristics**

- **Intelligent Sensors:** Auto-detectable when inserted at power-off mode
- **Battery Pack:** Rechargeable lithium-ion
- **Battery Life:** Minimum of 8 hours under continuous operation
- **External DC Power Input:** 10 to 16 Volt power input (nominal 12V DC) 1.5A
- **Power Adapter:** Universal AC adapter 100 to 240 Volt AC, 50-60 Hz

All Specifications Subject to Change.

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**Sensor Specifications**

#### EVM Series Specifications

**Particulates**

- **90º Light Scattering / Integrating Photometer**
  - Base: mg / m³
  - Resolution: 0.001
  - Range: 0.000 - 200.0
  - repeatability: ±-15% (rel ARD)*

- **Particulate Size Range**
  - μm
  - 0.1 - 10
  - repeatability: **

**VOC: 10.6εV Photoionization Detector**

- **Low Sensitivity PID**
  - select ppb / mg or m³
  - 0.01
  - 0.00 - 2,000
  - repeatability: +/-% 2%*** at calibration level

- **High Sensitivity PID**
  - select ppb / μg or m³
  - 1
  - 0 - 50,000
  - repeatability: +/-% 2%*** at calibration level

**CO₂**

- **NDR (Non-Dispersive Infrared)**
  - ppm
  - 1
  - 0 - 5,000
  - repeatability: +/1-100 ppm at 20 deg C, 1 bar pressure or 2,000 ppm applied gas

**Electrochemical Sensor**

- **CO – Carbon Monoxide Sensor**
  - ppm
  - 1
  - 0 - 1,000
  - repeatability: +/-% 2% of signal

- **Cl₂ – Chlorine Sensor**
  - ppm
  - 0.1
  - 0.0 - 20
  - repeatability: +/-% 2% of signal

- **EtO – Ethylene Oxide Sensor**
  - ppm
  - 0.1
  - 0.0 - 20
  - repeatability: +/-% 2% of signal

- **HCN – Hydrogen Cyanide Sensor**
  - ppm
  - 0.1
  - 0.0 - 50
  - repeatability: +/-% 2% of signal

- **NO₂ – Nitrogen Dioxide Sensor**
  - ppm
  - 0.1
  - 0.0 - 100
  - repeatability: +/-% 2% of signal

- **NO – Nitric Oxide Sensor**
  - ppm
  - 0.1
  - 0.0 - 100
  - repeatability: +/-% 2% of signal

- **O₂ – Oxygen Sensor**
  - %
  - 0.1
  - 0.0 - 30
  - repeatability: +/-% 2% of signal

- **SO₂ – Sulfur Dioxide Sensor**
  - ppm
  - 0.1
  - 0.0 - 50
  - repeatability: +/-% 2% of signal

**Temperature**

- **Junction Diode**
  - deg C
  - 0.1
  - 0.0 - 60.0
  - repeatability: +/- 1.1 deg C

- **deg F**
  - 0.1
  - 32.0 - 140
  - repeatability: +/- 2 deg F

**Relative Humidity**

- **Capacitive**
  - % humidity
  - 0.1
  - 0.0 - 100
  - repeatability: +/- 5% RH of signal between 10%-90%

**Air Velocity**

- **Omnidirectional Heated Thermostat Windprobe**
  - meter/sec
  - 0.1
  - 0.0 - 20
  - repeatability: +/- 0.12 m/s + 4.5% of signal

  - feet/min
  - 1
  - 0 - 3940
  - repeatability: +/- 23.6 ft/min + 4.5% of signal

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**WARNING**

This product monitors for the presence and concentration level of certain specified airborne gases, vapors, and particulates (dependent on model). The EVM Series of Environmental Monitors are NOT for use in Explosive or Hazardous locations. This equipment must be operated and serviced by qualified personnel. Read and understand the User Manual, which can be found on www.3M.com/detection, before operating or servicing. Misuse or failure to follow warnings and instructions may result in erroneous readings. For proper use, see supervisor or User Instructions, or call 3M Detection Solutions at 1-800-245-0779.

**WARNING**

These instruments help monitor for the presence and concentration level of certain specified airborne gases. Misuse may produce an inaccurate reading which means that higher levels of the gas being monitored may be present and could result in overexposure and cause sickness or death. For instruments with an oxygen sensor installed, misuse may produce an inaccurate reading where lower or higher levels of oxygen may be present and cause sickness or death. Each person using this equipment must read and understand the information in the User Instructions before use. Use of this equipment by untrained or unqualified persons, or use that is not in accordance with the User Instructions, may adversely affect product performance and result in sickness or death. For proper use, see supervisor or User Instructions, or call 3M Detection Solutions at 1-800-245-0779.