



® Knowledge Beyond Measure.

# DustTrak™ Environmental Aerosol Monitors

Models 8540 and 8543



## Real-time dust monitoring for any application environment

Whether you need to monitor for welding fumes in a factory, for air quality during hospital construction, or for dust during process manufacturing, the DustTrak™ Environmental Monitor is a robust, reliable solution for many types of applications. Conveniently packaged solutions allow you to measure PM10, PM2.5, or PM10, PM2.5, PM1.0 and Total PM simultaneously. TSI® also offers a cloud-based management system and a DustTrak™ Mobile App, allowing you to access data anytime and anywhere. The compact, DustTrak Environmental photometer, comes standard with other key components including a long-life pump, built-in auto zeroing, and an extended beam dump to combat contamination.

### Features and Benefits

- Conveniently packaged solutions for measurement of PM10, PM2.5, or PM10, PM2.5, PM1.0 and Total PM simultaneously
- Robust design enables long-term runtime in environments from 32 to 122°F (0 to 50°C)
- Field-replaceable, longer-life pump increases measurement uptime (life expectancy >10,000 hours)
- Optional heated inlet sample conditioning improves measurement accuracy in humid environments >50% RH
- Real-time access to secure data and sophisticated alert system via the Cloud Data Management System
- Built-in auto zero module minimizes drift over long sample runs and temperature changes
- Extended beam dump minimizes optical contamination

### Applications

- Perimeter monitoring
- Remediation monitoring
- Construction sites
- Dust control operations
- Engineering control evaluations
- Indoor air quality investigations
- Process monitoring



## Specifications

# DustTrak™ Environmental Aerosol Monitors

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### Sensor Type

90° light scattering

### Particle Size Range

8540 0.1 to 10 µm

8543 0.1 to 15 µm

### Aerosol Concentration Range

8540 DTE 0.001 to 400 mg/m<sup>3</sup>

8543 DTE DRX 0.001 to 150 mg/m<sup>3</sup>

### Resolution

±0.1% of reading or 0.001 mg/m<sup>3</sup>, whichever is greater

### Zero Stability

±0.002 mg/m<sup>3</sup> per 24 hours at 10 sec time constant

### Flow Rate

3.0 L/min

### Flow Accuracy

±5% of factory set point, internal flow controlled

### Temperature Coefficient

+0.001 mg/m<sup>3</sup> per °C

### Operational Temp

32 to 120°F (0 to 50°C)

### Storage Temp

-4 to 140°F (-20 to 60°C)

### Operational Humidity

0 to 95% RH, non-condensing

### Data Logging

5 MB of on-board memory (>60,000 data points)

45 days at 1 minute logging interval

### Log Interval

User adjustable, 1 second to 1 hour

### Physical Size (H x W x D)

8 x 8 x 4 in. (20.3 x 20.3 x 10.2 cm)

### Weight

5.3 lb (2.4 kg)

### Power-AC

Switching AC power adapter with universal line cord included, 115–240 VAC

### Gravimetric Sampling

Removable 37 mm cartridge (user supplied)

### CE Rating

Immunity EN61236-1:2006

Emissions EN61236-1:2006

### Communications

USB (host and device) and Ethernet.

Stored data accessible using flash memory drive

### Analog Out

User selectable output, 0 to 5 V or 4 to 20mA

User selectable scaling range

### Alarm Out

Relay or audible buzzer

Non-latching MOSFET switch

- User selectable set point
- -5% deadband
- Connector 4-pin

Mini-DIN connectors

Specifications are subject to change without notice.

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Knowledge Beyond Measure.

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