HEALTH AND SAFETY

Exposure Monitoring

DustTrak™ II Aerosol Monitor

Models 8530, 8531, and 8532

Desktop or Handheld Units for Any Environment, Any Application

The new DustTrak II Aerosol Monitors are battery-operated, data-logging, light-scattering laser photometers that give you real-time aerosol mass readings. They use a sheath air system that isolates the aerosol in the optics chamber to keep the optics clean for improved reliability and low maintenance. Suitable for clean office settings as well as harsh industrial workplaces, construction and environmental sites and other outdoor applications. DustTrak II monitors measure aerosol contaminants such as dust, smoke, fumes and mists.

Features and Benefits

- Easy to program, easy to operate
- New graphical user interface with color touch-screen
- Perform in-line gravimetric analysis for custom reference calibrations
- Automatic zeroing (with optional zero module) minimizes the effect of zero drift
- Measure aerosol concentrations corresponding to PM_1, $PM_{2.5}$, PM_{10}, or Respirable size fractions

Applications

- Industrial/occupational hygiene surveys
- Indoor air quality investigations
- Outdoor environmental monitoring
- Baseline trending and screening
- Point source monitoring
- Engineering control evaluations
- Engineering studies
- Remote monitoring
- Process monitoring
- Emissions monitoring
- Aerosol research studies

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Easy to Program and Operate

The new graphical user interface with color touch-screen puts everything at your fingertips. The easy-to-read display shows real-time mass concentration and graphical data as well as other statistical information along with instrument pump, laser and flow status, and much more. Perform quick walk-through surveys or program the instrument's advanced logging modes for long-term sampling investigations. Program start times, total sampling times, logging intervals, alarm setpoints and many other parameters. You can even set up the instrument for continuous unattended operation.

Desktop Models: Ideal for Long-Term Surveys and Remote Monitoring Applications

Manual and programmable data logging functions also make DustTrak II desktop monitors ideal for unattended applications. They come with USB (device and host), Ethernet, and analog and alarm outputs allowing remote access to real-time aerosol concentration data. User adjustable alarm setpoints for instantaneous or 15-minute short-term excursion limit (STEL) are available on desktop models. The alarm output with user-defined setpoint alerts you when upset or changing conditions occur.

All DustTrak II desktop monitors have three unique features:

- Gravimetric sampling capability using a 37-mm filter cassette which can be inserted in-line with the aerosol stream allowing you to perform an integral gravimetric analysis for custom reference calibrations.
- They can be zeroed automatically using the external zeroing module. This optional accessory is used when sampling over extended periods of time. By zeroing the monitor during sampling, the effect of zero drift is minimized.
- STEL alarm feature for tracking 15-minute average mass concentrations when alarm setpoint has been reached for applications like monitoring fugitive emissions at hazardous waste sites.

Handheld Models: Perfect for Walk-Through Surveys and Single-Point Data Collection Applications

DustTrak II handheld models are lightweight and portable. They're perfect for industrial hygiene surveys, point source location monitoring, indoor air quality investigations, engineering control evaluations/
validation, and for baseline trending and screening. Like desktop models, they have manual and programmable data logging functions. In addition, they have single-point data logging capability. Single-point data collection is used for walk-through industrial hygiene surveys and indoor air quality investigations.

New Software Makes Monitoring Easier than Ever

TrakPro™ Data Analysis Software allows you to set up and program directly from a PC. A new feature is the ability for remote programming and data acquisition from your PC via wireless (920 MHz or 2.4 GHz) communications or over an Ethernet network. As always, you can print graphs, raw data tables, and statistical and comprehensive reports for recordkeeping purposes.

DustTrak II Aerosol Monitor Features

All Models

- Li-Ion rechargeable batteries
- Internal and external battery charging capabilities
- Outlet port for isokinetic sampling applications
- User serviceable sheath flow and pump filters
- Logged test pause and restart feature
- Logged test programming
  - Color touch screen—either manual mode or program mode
  - TrakPro™ Data Analysis Software via a PC
- User adjustable custom calibration settings
- Instantaneous alarm settings with visual and audible warnings
- Real-time graph display
- View statistical information during and after sampling
- On-screen instrument status indicators: FLOW, LASER and FILTER
- Filter service indicator for user preventative maintenance

All Desktop Models

- Hot swappable batteries
- Gravimetric reference sample capability
- Long life 10,000-hour internal pump
- TrakPro Data Analysis Software
- Auto zeroing module (optional accessory)
- STEL alarm setpoint

All Handheld Models

- Long life 2,500-hour internal pump
- Single-point data collection for walk through surveys
- TrakPro Data Analysis Software

Battery Performance

Models 8530/8531 (typical) 6600 mAH Li-Ion Battery Pack (P/N 801680)	1 Battery	2 Batteries
Battery Runtime (hours)	up to 6	up to 12
Charge Time * (hours) in DustTrak	4	8
Charge Time* (hours) in external battery charger (P/N 801685)	4	8

Model 8532 (typical) 3600 mAH Li-Ion Battery Pack (P/N 801681)	Battery
Battery Runtime (hours)	up to 6
Charge Time * (hours) in DustTrak	4
Charge Time* (hours) in external battery charger (P/N 801686)	4

*of a fully depleted battery

Specifications

Models 8530, 8531, and 8532
DustTrak™ II Aerosol Monitor

Sensor Type
90° light scattering

Aerosol Concentration Range

8530 Desktop	0.001 to 150 mg/m^3
8531 Desktop HC	0.5 to 400 mg/m^3
8532 Handheld	0.001 to 150 mg/m^3

Resolution
±0.1% of reading of 0.001 mg/m^3, whichever is greater

Zero Stability
±0.002 mg/m^3 24 hours at 10 sec time constant

Particle Size Range
0.1 to 10 µm

Flow Rate
3.0 L/min set at factory, 1.40 to 3.0 L/min, user adjustable

Flow Accuracy
±5% of factory set point, internal flow controlled

Temperature Coefficient
+0.001 mg/m^3 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

Time Constant
User adjustable, 1 to 60 seconds

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 (HWD)

Handheld	4.9 x 4.8 x 12.5 in. (12.5 x 12.1 x 31.6 cm)
Desktop	5.3 x 8.5 x 8.8 in. (13.5 x 21.6 x 22.4 cm)

Weight

Handheld	2.9 lb (1.3 kg), 3.3 lb (1.5 kg) with battery
Desktop	3.5 lb (1.6 kg), 4.5 lb (2.0 kg)–1 battery, 5.5 lb (2.5 kg)–2 batteries

Communications

8530/31	USB (host and device) and Ethernet. Stored data accessible using flash memory drive
8532	USB (Hose and device). Stored data accessible using flash memory drive

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

Analog Out

8530/31	User selectable output 0 to 5 V or 2 to 20 mA User selectable scaling range

Alarm Out

8530/31	Relay or audible buzzer Relay Non-latching MOSFET User selectable set point –5% deadband Connector 4-pin, Mini-DIN connectors
8532	Audible buzzer

Screen

8530/31	5.7 in. VGA color touchscreen
8532	3.5 in. VGA color touchscreen

Gravimetric Sampling

8530/31	Removable 37 mm cartridge (user supplied)

CE Rating

Immunity	EN61236-1:2006
Emissions	EN61236-1:2006

Specifications are subject to change without notice. TSI, the TSI logo, DustTrak, and TrakPro are trademarks of TSI Incorporated. Microsoft and Windows are trademarks of Microsoft Corporation.

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