



### Features and Benefits

- Intrinsically safe (CSA and ATEX Approval) for use in hazardous environments (see model and battery specific information)
- Multiple battery options including 1650 mAh, 2700 mAh NiMH battery packs or a 6-cell, AA-size battery pack
- Precise run time information in minutes remaining
- Integrated pump allows use of size-selective aerosol inlet conditioners
- Built-in impactors: for 1.0, 2.5, 10-micron cut off
- Real-time concentrations (mg/m<sup>3</sup>) and TWA during sampling
- Statistics functions: max, min. and average readings, elapsed time and 8-hour TWA
- TRAKPRO™ Data Analysis Software

### SIDEPAK™ Personal Aerosol Monitor Model AM510

The SIDEPAK™ AM510 Personal Aerosol Monitor for industrial hygiene and safety professionals displays and data logs aerosol concentration in real time. The rugged, belt-mountable laser photometer is compact and quiet, minimizing interference and worker discomfort. The built-in sampling pump lets you attach a wide variety of size-selective aerosol inlet conditioners for breathing zone or area measurements with a respirable cyclone or one of the three integrated impactors.

The SIDEPAK monitor incorporates TSI's Smart Battery Management System™ technology. This system utilizes a built-in "gas gauge" in the battery packs to monitor battery condition and provide precise run time information.

### Applications

- Personal Exposure monitoring/IH studies
- Ambient/work area monitoring
- Trending/screening
- Engineering studies
- Epidemiology health studies
- Environmental sampling





The SIDEPAK™ monitor's easy-to-read display shows your data as both real-time aerosol mass-concentration and 8-hour time-weighted average (TWA). The monitor's intrinsic safety rating makes it ideal for hazardous/explosive environments. With its convenient data logging and long battery life, the SIDEPAK™ monitor is also ideal for extended sampling. The easy-to-use TRAKPRO™ Data Analysis Software lets you create effective graphs and reports.

### User Friendly

- Small, lightweight and quiet to maximize worker acceptance
- Rugged design with secure belt clip
- Easy-to-understand user interface with only four keys
- Lockable keypad prevents tampering while sampling
- User-adjustable sample flow rate
- Define, label and store multiple calibration constants
- Easy-to-read LCD display
- Convenient, threaded tripod socket accommodates area sampling

### Advanced Features

- Smart Battery Management System provides precise run time information, maximizes battery capacity and speeds charging
- Integrated pump allows use of size-selective aerosol inlet conditioners
- Built-in impactors let you choose "none," 1.0, 2.5 or 10-micron cut off
- Display shows real-time concentrations (mg/m<sup>3</sup>) and "on-the-fly" TWA as you data log
- Display statistics: max, min and average readings, elapsed time and 8-hour TWA

### Quick and Easy Reports

- Convenient preprogramming for occupational exposure sampling
- Data log for long periods and store multiple tests
- Analyze data, print graphs and create reports with TRAKPRO™ Data Analysis Software
- USB port lets you conveniently connect to your computer

### Power to Spare

- Long-lasting NiMH rechargeable battery packs eliminate "memory" issues
- Choice of rechargeable NiMH smart battery packs or AA-cell pack

## Specifications

### Model AM510

### SIDEPAK™ Personal Aerosol Monitor

#### Sensitivity

**Sensor Type** 90° light scattering, 670 nm laser diode  
**Aerosol Concentration Range** 0.001 to 20 mg/m<sup>3</sup> (calibrated to respirable fraction of ISO 12103-1, A1 test dust)

**Particle Size Range** 0.1 to 10 micrometer (µm)  
**Minimum Resolution** 0.001 mg/m<sup>3</sup>  
**Zero stability** ±0.001 mg/m<sup>3</sup> over 24 hours using 10-second time-constant

**Temperature Coefficient** Approximately +0.0005 mg/m<sup>3</sup> per °C (for variations from temperature at which instrument was last zeroed)

#### Flow Rate

**Range** User-adjustable, 0.7 to 1.8 liters/min (L/min)

#### Temperature Range

**Operating Range** 0 to 50°C (32 to 120°F)  
**Storage Range** -20 to 60°C (-4 to 140°F)

#### Time Constant (LCD display)

**Range** User-adjustable, 1 to 60 seconds

#### Data Logging

**Data Points** Approx. 31,000  
**Logging Interval** User-adjustable, 1 second to 1 hour

#### User-Select Calibration Factors

**Factory Setting** 1.0 (non-adjustable)  
**User-defined Settings** 3, with user-defined labels  
**Range** 0.1 to 10.0, user-adjustable

#### Physical

**External Dimensions** 106 x 92 x 70 mm (4.2 x 3.7 x 2.8 in.) with 801723, 801724 or 801729 battery  
 130 x 92 x 70 mm (5.1 x 3.7 x 2.8 in.) with 801708, 801722, 801728, 801735, or 801736 battery

**Weight** 0.46 kg (16 oz) with 801723, 801724 or 801729 battery  
 0.54 kg (19 oz) with 801708, 801722, 801728, 801735, or 801736 battery

**Display** 2 line x 12 character LCD  
**Tripod Socket** 1/4–20 female thread

#### Power Supply/Charger (P/N 2613210)

**Input Voltage Range** 100 to 240 VAC, 50 to 60 Hz  
**Output Voltage** 9 VDC @ 1.0 A

#### Maintenance

**Factory Clean/Calibrate** Recommended annually  
**User Zero Calibration** Before each use  
**User Flow Calibration** As needed

#### Communications Interface

**Type** USB 1.1  
**Connector, Instrument** USB Mini-B (socket)

#### Minimum Computer Requirements for TRAKPro™ Data Analysis Software

**Communications Port** Universal Serial Bus (USB) v 1.1 or higher  
**Operating System** Microsoft Windows® XP or Vista®

## Battery Performance

Battery Options	Charge Time (hrs)*	Intrinsic Safety Rating	Run Time (hrs @ 1.7 L/min)
1600 mAh NiMH Pack, 4.8 V (P/N 801723)	3.0	ATEX**	4.0
1650 mAh NiMH Pack, 4.8 V (P/N 801724 or 801729)	3.5	CSA** ATEX**	9.2
2700 mAh NiMH Pack, 4.8 V (P/N 801722 or 801728)	5.5	CSA** ATEX**	15.6
2700 mAh NiMH Pack, 4.8 V (P/N 801735)	5.5	No	15.6
6-Cell AA-size Alkaline Pack*** (P/N 801708 or 801736 with six user-supplied AA cells)	N/A	No	22.5

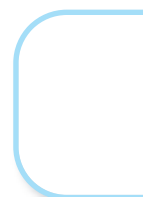
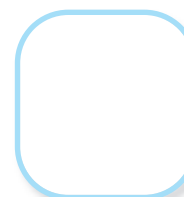
\*Of a fully depleted battery

\*\*All dust plugs and dust gaskets must be installed.

\*\*\*Using Energizer AA-size, E91 alkaline batteries.

## Battery Level Indicator

The Smart Battery Management System™ technology utilizes a built-in “gauge” in the SIDEPAK™ battery packs. The gauge monitors battery capacity and calculates run time information by dividing capacity of the battery (mAh) by the instantaneous current consumed by the instrument (mA). This calculation is correct for current operating conditions and can change due to current (mA) consumption or changes in battery capacity.



## Approvals

### Intrinsic Safety Rating Information

(all dust plugs and dust gaskets must be installed)

TSI Battery Pack P/Ns: 801722, 801724, 801728 or 801729

INTRINSICALLY SAFE CSA

Exia

Class I Groups A, B, C, D

Class II Groups E, F, G

Class III

T2A with 801724 or 801729


T2C with 801722 or 801728

File: 200507

TSI Incorporated  
500 Cardigan Road  
Shoreview, MN 55126  
Made in USA

Type: AM510  
This instrument with TSI  
Battery Pack PN 801723,  
801728, and 801729

 0344

 II 1 G  
EEx ia IIC T2  
LCIE 05 ATEX 6134

DO NOT REMOVE BATTERY  
IN A POTENTIALLY  
EXPLOSIVE ATMOSPHERE

 0344

**Immunity** EN61326-1:1997 + A11998 Clause 6  
**Emissions** EN61326:1997 + Amendment A1:1998

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