



# SIDEPAK™ PERSONAL AEROSOL MONITOR MODEL AM520i

The SidePak™ AM520i Personal Aerosol Monitors are small, portable, battery-operated, data-logging, light-scattering laser photometers that provide real-time aerosol mass concentration readings of dusts, fumes, mists, smoke and fog within a worker breathing zone. Newly designed inlet conditioners increase the mass concentration capability and provide size fraction cut points for PM<sub>10</sub>, Respirable (PM<sub>4</sub>), PM<sub>5</sub> (China Respirable), PM<sub>2.5</sub>, PM<sub>1</sub> and 0.8µm Diesel Particulate Matter (DPM). This intrinsically safe monitor is the perfect solution for real-time, personal aerosol sampling in a variety of workplace environments, including but not limited to general industry, foundries, construction sites, chemical plants, refineries, petrochemical, power and utilities, transportation, aerospace, maritime, confined spaces and mining.



## New Features

- + Robust impactors for higher mass concentration range
- + Audible and visual alarms
- + 0.8µm DPM impactor
- + PM<sub>5</sub> China respirable size fraction impactor
- + High capacity battery
- + Color OLED display

## Features and Benefits

- + Real-time mass concentration measurement and data logging for "in-the-field" data analysis
- + Push button menu operation or programmable through newly improved TrakPro™ v5 Data Analysis Software
- + User-selectable alarm levels to alert workers to high aerosol concentrations
- + Newly designed robust impactors enable reliable size fraction measurements at higher aerosol concentrations over longer run times
- + Model AM520i designed and tested to pass Intrinsic safety requirements as established by IEC (International Electrotechnical Commission)—see TSI App Note EXPMN-017 for a basic understanding of intrinsic safety

## IECEx / ATEX

IECEx SIR 18.0043X  
Sira 18ATEX2150X



Ex ia IIC T4 Ga  
Ex ia | Ma  
Rated: 12Vdc SELV  
Ta = 0 °C to +50 °C



## Intrinsic Safety Rating Information CSA

### Class 2258-03 Process Control Equipment —

Intrinsically Safe and Non-Incendive Systems -  
For Hazardous Locations —Certified to Canadian Standards

- + Class I, Division I, Groups A, B, C, D,
- + Class II, Division I, Groups E, F, G,
- + Class III; T4; Ex ia IIC T4 Ga
- + Rated: 12Vdc SELV, 2.5A
- + Ta = 0 °C to +50 °C

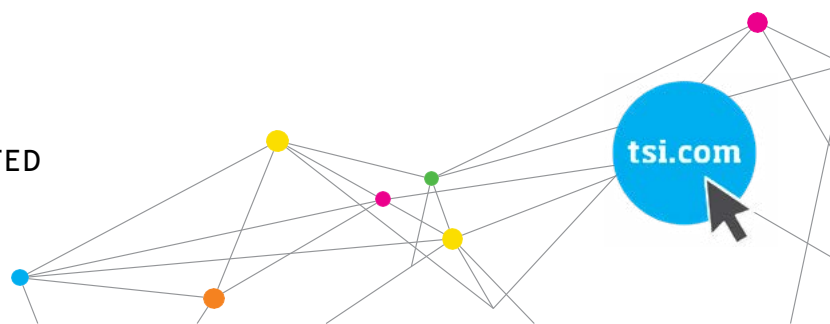
### Class 2258-83 Process Control Equipment —

Intrinsically Safe and Non-Incendive Systems -  
For Hazardous Locations —Certified to US Standards

- + Class I, Division I, Groups A, B, C, D; T4
- + Class I Zone 0 AEx ia IIC T4 Ga
- + Rated: 12Vdc SELV, 2.5A
- + Ta = 0 °C to +50 °C



UNDERSTANDING, ACCELERATED



## SPECIFICATIONS

### SIDEPAK™ PERSONAL AEROSOL MONITOR MODEL AM520i

#### Sensitivity

|             |                                                                                                                |
|-------------|----------------------------------------------------------------------------------------------------------------|
| Sensor Type | 90° light scattering, 650 nm laser diode                                                                       |
| Calibration | Calibrated against a gravimetric reference using the respirable fraction of standard ISO 12103-1, A1 Test Dust |

|                             |                                                                      |
|-----------------------------|----------------------------------------------------------------------|
| Aerosol Concentration Range | 0.001 to 100 mg/m <sup>3</sup>                                       |
| Particle Size Range         | 0.1 to 10 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 to 1.8 liters/min (L/min) Note: Upper range is dependent on impactor or cyclone attached to the SidePak AM520 Monitor |
|-------|------------------------------------------------------------------------------------------------------------------------------------------|

#### Temperature Range

|                      |                                   |
|----------------------|-----------------------------------|
| Operating Range      | 32° F to 120° F (0° C to 50° C)   |
| Storage Range        | -4° F to 140° F (-20° C to 60° C) |
| Operational Humidity | 0 to 95% RH, non-condensing       |

#### Time Constant (OLED Display)

|       |                                       |
|-------|---------------------------------------|
| Range | User-adjustable, from 1 to 60 seconds |
|-------|---------------------------------------|

#### Built-in Inlets

|                            |                        |
|----------------------------|------------------------|
| Standard inlet             | Not size-specific      |
| PM <sub>1.0</sub> impactor | 50% cut-off at 1.0 µm  |
| PM <sub>2.5</sub> impactor | 50% cut-off at 2.5 µm  |
| PM <sub>5.0</sub> impactor | 50% cut-off at 5.0 µm  |
| PM <sub>10</sub> impactor  | 50% cut-off at 10.0 µm |

#### Attachable Cyclones

|                  |                       |
|------------------|-----------------------|
| 4 µm Dorr-Oliver | 50% cut-off at 4.0 µm |
| 0.8 µm DPM       | 50% cut-off at 0.8 µm |

#### Alarms

|                  |                                                                                                                      |
|------------------|----------------------------------------------------------------------------------------------------------------------|
| Alarm Types      | General, STEL                                                                                                        |
| Default Settings | 0.5 mg/m <sup>3</sup> , 1 mg/m <sup>3</sup> , 3 mg/m <sup>3</sup> , 5 mg/m <sup>3</sup> , 15 mg/m <sup>3</sup> , Off |

Programmable from 0.001 to 999 mg/m<sup>3</sup> through TrakPro Software

|                 |                                                                                |
|-----------------|--------------------------------------------------------------------------------|
| Alarm Indicator | 95 dBA (at one foot) audible horn, blinking red LED, flashing red OLED display |
|-----------------|--------------------------------------------------------------------------------|

|                |                                          |
|----------------|------------------------------------------|
| Ringback Delay | 30 sec, 1 min, 3 min, 5 min, 10 min, Off |
|----------------|------------------------------------------|

#### Data Logging

|                  |                                                  |
|------------------|--------------------------------------------------|
| Data Points      | Approx. 80,000 (55 days logging once per minute) |
| Logging Interval | User-adjustable, from 1 second to 60 minutes     |

#### User-Select Calibration Factors

|                       |                                                  |
|-----------------------|--------------------------------------------------|
| Factory Setting       | 1.0 (non-adjustable)                             |
| Ambient Setting       | 0.38 (non-adjustable)                            |
| User-Defined Settings | 5, with user-defined labels via TrakPro Software |
| Range                 | 0.1 to 10.0, user-adjustable                     |

#### Physical

|                     |                                                                        |
|---------------------|------------------------------------------------------------------------|
| External Dimensions | 5.1 x 3.7 x 3.1 inch<br>129.5 mm x 94 mm x 78.4 mm with 803300 battery |
| Weight              | 22 oz (0.62 kg) with 803300 battery                                    |
| Display             | 160 x 128 resolution color OLED display                                |
| Tripod Mounting Nut | ¼-20 female thread                                                     |

#### Battery Pack (p/n 803311)

|             |                                                                   |
|-------------|-------------------------------------------------------------------|
| Rating      | 5400 mAh Li-Ion Pack                                              |
| Run Time    | Greater than 20 hours at 1.7Lpm with a PM <sub>2.5</sub> impactor |
| Charge Time | 4.0 hours (typical with a fully depleted battery)                 |

#### Power Supply (p/n 803302)

|                     |                             |
|---------------------|-----------------------------|
| Input Voltage Range | 100 to 240 VAC, 50 to 60 Hz |
| Output Voltage      | 12 VDC @3.0A                |

#### Maintenance

|                         |                                         |
|-------------------------|-----------------------------------------|
| Factory Clean/Calibrate | Recommended annually                    |
| User Zero Calibration   | Before each use                         |
| UserFlow Calibration    | As needed with use of inlet conditioner |

#### Communications Interface

|                       |                      |
|-----------------------|----------------------|
| Type                  | USB 2.0              |
| Connector, Instrument | USB Micro-B (socket) |

#### Minimum Computer Requirements for TrakPro Software

|                     |                                                                     |
|---------------------|---------------------------------------------------------------------|
| Communications Port | Universal Serial Bus (USB) v2.0 or higher                           |
| Operating System    | Microsoft Windows® 7, 8, or 10 (32-bit or 64-bit) operating systems |

#### Approvals

Model AM520i Battery Pack - P/N 803311



|           |                                      |
|-----------|--------------------------------------|
| Immunity  | EN61326-1:2013                       |
| Emissions | EN61326-1:2013 Class B               |
| Safety    | IEC 61010-1:2010<br>IEC 60825-1:2014 |

Specifications are subject to change without notice.

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