

# 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  
 II 1G  
 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 –

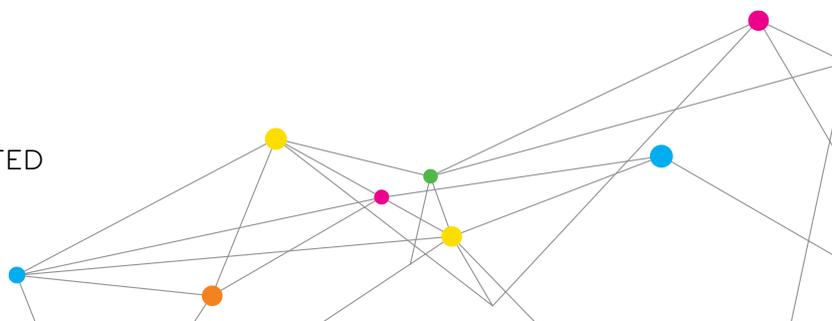
Intrinsically Safe and Non-Incendive Systems -  
For Hazardous Locations – Certified to Canadian Standards  
 + Class I, Division I, Groups A, B, C, D,  
 + Class II, Division I, Groups E, F, G,  
 + Class III; T4; Ex ia IIC T4 Ga  
 + Rated: 12Vdc SELV, 2.5A  
 + Ta= 0 °C to +50 °C

### 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  
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  
User Flow 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  
IEC 60825-1:2014

Specifications are subject to change without notice.

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