

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 PM₁₀, Respirable (PM₄), PM₅ (China Respirable), PM_{2.5}, PM₁ 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
- + PM₅ 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/m³
Particle Size Range 0.1 to 10 µm
Minimum Resolution 0.001 mg/m³
Zero Stability ±0.001 mg/m³ over 24 hours using 10 second time constant

Temperature Coefficient Approximately +0.0005 mg/m³ 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_{1.0} impactor 50% cut-off at 1.0 µm
PM_{2.5} impactor 50% cut-off at 2.5 µm
PM_{5.0} impactor 50% cut-off at 5.0 µm
PM₁₀ 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/m³, 1 mg/m³, 3 mg/m³, 5 mg/m³, 15 mg/m³, Off
Programmable from 0.001 to 999 mg/m³ 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_{2.5} 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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