

Model 334A Alpha Air Monitor

Features

- Easy Setup & Use
- Integrated LCD & Touch Screen Display
- American or SI Units of Measurement
- Acute & Chronic Dose Modes
- Significantly Reduced False Alarms Using Peak Shape Fitting Capability
- 10-Hour Battery Life
- Radon Mode Option



Introduction

The Model 334A is a compact, lightweight, and portable alpha air monitor designed to function both as a workplace monitor and a CAM for measurements in emergency response situations. Spectral analysis is conducted via a 1024-channel analyzer that feeds data to the embedded processor. Factory configuration provides either special nuclear materials (SNM) or radon progeny measurements of potential alpha energy concentration (PAEC).

Measurements may be taken in both fast-responding (Acute) or high-sensitivity (Chronic) assessments, and report in American or SI units. The Model 334A stores acquired data in comma-separated-variable (.csv) format that is recognized by most spreadsheet and database software. Data may be saved in the instrument's internal memory, or alternately may be written to an SD card for later retrieval and review.

Independent determination of nuclide peaks means they are impervious to radon equilibrium changes, thereby contributing to low probabilities of error and false alarms. Precise fitting of the ^{218}Po tail results in excellent sensitivity.

This instrument features an integrated LCD and touch screen that displays information on instrument status and readings during operation. The estimated dose of the isotope(s) of interest and instrument status is displayed at all times. A window below may be switched from showing historical readings and battery status, or display the current alpha energy spectrum.

Factory-configurable "Radon Mode" allows the instrument to monitor potential-alpha-energy-concentration (PAEC) of radon progeny. Because the individual progeny concentrations are known, the effective (dis)equilibrium ratio of radon progeny can be determined and displayed.

Specifications

Part Number 48-3859

SAMPLING HEAD and FLOW

- Detector: solid-state ion-implanted silicon (450 mm² active area)
- Pump: diaphragm-type, 7.0 LPM (typical)
- Filter: 37 mm SpecIon™ 1.5 µm PTFE membrane or compatible 37 mm PTFE filter (25 mm collection area)

DATA ANALYSIS

- MCA: 1024-channel ADC binned to 256 channel spectrum
- Peak-fitting algorithm for ^{214}Po , ^{218}Po (Radon Mode also fits ^{212}Po and ^{210}Po) and two additional radionuclides (e.g. ^{239}Pu)
- Acute (120 sec window and Chronic (240min)-sensitivities, plus net count rate alarm
- Processor: Windows CE-based PDA, 533 MHZ Intel X-Scale processor
- Max Count Rate: 600,000 cpm
- Source Response Check diagnostic
- Calibration: Electro-plated stainless steel source required for efficiency calibration. 37 mm diameter with 25 mm active area. ^{241}Am or ^{239}Pu recommended.
- Energy Range: 1.0 - 8.0 MeV (1.0 - 10 MeV in Radon Mode)

PHYSICAL

- Battery powered: 8.4 V Li-Ion, 6.3 Ah 10-hour run-time, 4-hour charge time
- Weight: 5.9 lbs (2.7 kg)
- Dimensions: 9" w x 9" h x 4" d (24 x 24 x 10 cm)
- Temperature: 0 to 122 °F (-20 to 50 °C)
- Humidity: 5 to 100% (non considering)
- Splash/ dust-proof enclosures

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Note: specifications subject to change without notification. We are not responsible for errors or omissions.