

The Alpha-7A is a Continuous Air Monitor (CAM) designed to provide early warning to workers exposed to airborne releases of alpha-emitting radionuclides to reduce the internal inhaled dose.

## Alpha-7A Alpha Particulate Continuous Air Monitor



- Simultaneously monitors up to 8 isotopes
- Advanced peakshape algorithms
- Alpha spectral data updated every second
- Radial or inline smart detector heads
- Concentration, dose, and activity alarms
- Stand-Alone or network configurable

The Model ALPHA-7A is a modern, PC-based continuous air monitor providing faster and more powerful algorithms for the identification and quantification of airborne releases of alpha-emitting radionuclides, primarily transuranics such as  $^{238}\text{Pu}$  and  $^{239}\text{Pu}$ .

The ALPHA-7A has adjustable alarms, at both DAC and DAC-hour levels, to rapidly warn workers of potentially dangerous releases.

This instrument design has successfully passed the rigorous ANSI N42.17B testing in the US and is CE qualified for European and other international operations. The Lovelace Respiratory Research Institute has also

successfully tested the ALPHA-7A for particle collection efficiency and uniformity on the collection filter. The ALPHA-7A is fully RadNet compliant.

The ALPHA-7A can serve as a stand-alone CAM, or be incorporated into an Ethernet-based network. In addition to monitoring work areas, it is also an excellent solution for monitoring stacks and ducts.

The ALPHA-7A offers two detector designs; the radial entry head for ambient air monitoring and the inline head for process or stack monitoring applications. Either head may be used remotely from the central display and control unit.

## Alpha 7A Specifications

Detector:	Solid state, 490 mm <sup>2</sup> active area
Efficiency:	Pu-239 27% (4 pi geometry).
Sample rate:	.5 to 2 CFM (14 to 60 lpm).
Connections:	RJ-45 for 10/100 Base T Ethernet (calibration and/or networking) PS2 Keyboard and mouse (local control of the Alpha-7A) DB15 External video (local view of the spectrum and for calibration) Terminal blocks for analog input, analog output, and alarm relays.
Power:	85-264 V ac, less than 100 watts, 45-63 Hz.
Analog inputs:	0 or 4-20 mA (logarithmic signal proportional to stack flow).
Analog outputs:	0 or 4-20 mA analog output, assigned to various measured items, for example slow concentration, fast concentration, sample flow rate, stack flow rate.
Alarms:	Red visual beacon, acknowledgeable from front panel. Sonalert for audible annunciation. Alarms for alert and high activity for fast concentration, slow concentration, DAC-h, stack release, flow alarms. Data Recording: Microsoft™ Access format database.
Nuclide library:	Fully editable Microsoft Access database for any number of user-specified isotopes.
Output relays:	Relay contact for alarm, fail, alert, and high activity alarms.
Vacuum supply:	Suggested is the RAP-1 (or RAP1-220 for 220V operation).
Approvals:	Electrical approval: CE mark certified. ANSI: ANSI N42.17B Particle collection/efficiency: Lovelace Respiratory Research Institute

**Display module**

Size:	311 H x 279 W x 165 D mm (12.25" H x 11" W x 6.5" D)
Weight:	7.8 kg (17 lb)

**Radial detector head**

Size:	20 H x 152 W x 216 D mm (8" H x 6" W x 8.5" D)
Weight:	3 kg. (6.5 lb)

**Inline detector head**

Air inlet:	The Alpha-7 in-line head uses 2.5 cm (1") tubing.
Size:	318 H x 191 W x 159 D mm (12.5" H x 7.5" W x 6.25" D)
Weight:	5 kg (11 lb)

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