



# **AirTrack-Mobile Alpha/Beta Monitor**

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### DESCRIPTION

AirTrack-Mobile is a compact aerosol monitoring system featuring advanced design solutions for automatic alpha and beta spectrometric measurements. It utilizes a special version of a Silicon Ion-Implanted Detector (SIID) with an active area of 900 mm<sup>2</sup> for both alpha and beta spectrometry. Measurements can be conducted under high-background conditions — compensation for radon, thoron, and their progeny is performed algorithmically through spectrometric analysis. To reduce the influence of gamma background, an auxiliary SIID is used to measure beta-equivalent pulses and subtract them from the total beta count.

A modular approach to the design of AirTrack-Mobile hardware and software enables fast troubleshooting of system issues. Moreover, the modular design facilitates easy upgrades and integration of future equipment.

### APPLICATION

- Continuous automatic measurements of alpha/beta radionuclides concentration in the form of airborne aerosols

### FEATURES

- 900 mm<sup>2</sup> silicon ion implanted detector for alpha/beta measurements
- 15 meters filter tape, up to 3-month autonomy
- Radon progeny and gamma background compensation
- Evaluation of measurement results according to ISO 11929
- Automatic filter change when total activities or differential pressure thresholds are exceeded
- Continuous self-testing procedures with an alarm signal and messages
- Capability to use disk filters in manual measurement mode
- Optional: UPS for 30 minutes autonomous operations
- Optional: Gamma Dose Rate Monitor (GDRM)



Graphical user interface of the LCD Touch Panel  
of the on-board computer

Parameter	Value
Alpha energy measurement range	2 – 10 MeV
Beta energy measurement range	0.05 – 2 MeV
Detection efficiency	<sup>241</sup> Am: ≥0.15, <sup>90</sup> Sr/ <sup>90</sup> Y: ≥0.2
Alpha concentration measurement range	10 <sup>-2</sup> – 10 <sup>5</sup> Bq/m <sup>3</sup>
Beta concentration measurement range	10 <sup>-1</sup> – 10 <sup>5</sup> Bq/m <sup>3</sup>
Radon and Thoron measuring range	from 10 <sup>-1</sup> to 10 <sup>5</sup> Bq/m <sup>3</sup> with automatic Radon progenies compensation
Voltage and frequency	230 ± 20 V AC 50 Hz, 800 W max
Temperature	from 0 °C to +40 °C, 85 % RH non-condensing
Dimensions & Weight	800 × 780 × 1575 mm, no more than 60 kg
Protection	IP 54