

Portable Gamma Monitor PM1710A

Solid-state radiation monitor for detection and measurement of gamma radiation

Main features:

- Cesium Iodide crystal scintillator
- Audible and vibration alarms
- External vibration alarm (option)
- Count rate and dose rate modes
- Rugged construction
- Data storage
- PC communication



A highly sensitive portable gamma radiation monitor specifically designed for search and location of nuclear and radioactive materials, based on a CsI(Tl) scintillator detector with energy response optimised for the detection of uranium and plutonium. The rugged aluminium housing is designed for use in harsh environments and extreme climates. The unit incorporates audible and vibrating alarms to signal when radiation levels pass a preset threshold automatically calculated by the instrument, with an external vibration alarm device available as an option. Data including alarm times and levels are stored in a non-volatile memory and can be downloaded to a PC via an IR-channel. Also available as a gamma-neutron monitor, with He-3 neutron detector incorporated for enhanced detection of neutron emitters including plutonium (Portable gamma-neutron monitor PM1710GN).

Specifications:

Detector	CsI(Tl) scintillator
Sensitivity - gamma: for ^{137}Cs , no less than for ^{241}Am , no less than	300 cps / ($\mu\text{Sv/h}$) 300 cps / ($\mu\text{Sv/h}$)
Energy range	0.06 - 3.0 MeV
Time of measurement	0.25 s
Range of n coefficient (the number of mean square deviations of the current background) Step	from 1 to 9.9 0.1
Detection of gamma radiation sources at a distance of 0.2m at a velocity of 0.5 m/s	24 kBq ^{133}Ba 21 kBq ^{60}Co
PM1710GN Detection at a distance of 0.2 m at velocity 0.5 m/s: - standard Pu sample - standard U sample	0.1 g 3.0 g

The maximum permissible intrinsic relative error of DER measurement for ¹³⁷ Cs collimated radiation	±30%
PM1710A meets requirements of ITRAP Program: detection with no less than 99% probability within 3 s at background level of 0.2 µSv/h and false alarm rate no more than 1 per 12 hours for Cs-137, Am-241, Co-60, at dose rate of:	0.2 µSv/h
Count time: - in background mode - in search mode	36 s 2 s
Additional functions	PC communication (IrDA)
Power supply	1.5 V (1 x AA battery)
Battery lifetime (AA)	700 h
Low battery warning	LCD indication
Drop test on concrete floor	0.7 m
Degree of protection provided by housing	IP65 (option IP67)
Operating conditions: - temperature range - relative humidity	from -30 up to +50 °C (LCD from -15 to +50 °C) up to 98% at 35 °C
Weight (with battery), no more than	0.4 kg
Dimensions	170 x 57 x 32 mm