



POLIMASTER®



Innovating Radiation Detection Technologies Since 1992

MULTIPURPOSE RADIATION MONITOR PMT403



Our highly versatile hand-held radiation monitor is a multifunctional, networked mobile instrument for measuring all types of ionizing radiation, spectrum collection of gamma emitting sources and radioisotope identification. Connectability of four exchangeable smart probes, built-in CsI(Tl), makes the PM1403 ideal for the detection and locating of Alpha, Beta, Gamma, Neutron radiation sources. Add in the ability for precision measurement for alpha and beta contamination, dose rate measurements for gamma and neutron radiation, reliable spectroscopic identification of radioisotopes, and networkability provides a complete solution in one package.

With the built-in spectroscopic scintillation CsI(Tl) detector you can search, detect, and locate gamma radiation sources. Additionally the spectroscopic nature of this device allows you to collect, analyze, store, and view spectra files at will.

Gamma radiation detection unit BDG1 is based on the highly sensitive spectroscopic scintillation detector material NaI(Tl). BDG1 is capable of search and spectroscopic functions.

BDG1H utilizes LaBr3 scintillation material capable of search and spectrometry with better relative energy resolution in comparison with BDG1.

Using an energy-compensated Geiger Muller tube at the BDG2 for precise measurement of the ambient equivalent dose rate of gamma radiation in the range of Background to 10 Sv/h (1000 R/h).

BDN, Neutron radiation detection unit is intended to search, detect, locate, and provide readings on the relevant radiological environment.

Capable of detecting alpha and beta radiation, the BDAB is ideal for surface contamination surveys/flux density readings.

α
γ β
η

USB
RS 485
Wi-Fi
GPS
GPRS



ALARM



LOCATION



MEASUREMENT



IDENTIFICATION

Features

- Alpha, beta, gamma, neutron, spectroscopic external probes
- Built-in CsI(Tl) spectroscopic detector
- Built-in fast and reliable identification of isotopes
- Wi-Fi, GSM/GPRS wireless communication
- USB, RS485 - interfaces
- Built-in GPS receiver
- Audible, visual alarms
- Shockproof hermetic case

Application

- First responders
- Customs and Border Patrol
- Police
- Emergency teams
- Law enforcement
- HazMat teams
- Security guards



MULTIPURPOSE RADIATION MONITOR

PM1403

SPECIFICATIONS

	MAIN UNIT	BDG1	BDG1H	BDG2	BDN	BDAB
Detector	CsI(Tl)	NaI(Tl)	LaBr3	G-M tube	Slow neutron detector	Proportional counter
Energy range	gamma 0.05 - 3.0 MeV	gamma 0.03 - 3.0 MeV	gamma 0.03 - 3.0 MeV	gamma 0.03 - 3.0 MeV	neutron from thermal to 14.0 MeV	alpha 4 - 7 MeV beta 0.15 - 3.5 MeV
Dose rate	gamma 0.1-40 μ Sv/h (10 μ R/h - 4 mR/h)	gamma 0.1 μ Sv/h-1 mSv/h (10 μ R/h - 100 mR/h)	gamma 0.1 μ Sv/h-1 mSv/h (10 μ R/h - 100 mR/h)	gamma 0.1 μ Sv/h-10 Sv/h (10 μ R/h - 1000 R/h)	neutron (Pu-Be sources) 1 μ Sv/h - 5 mSv/h (10 μ R/h - 0.5 R/h)	-
Flux density	-	-	-	-	-	alpha $1,0-5 \cdot 10^5 \text{ min}^{-1} \cdot \text{cm}^{-2}$ beta $10 - 10^6 \text{ min}^{-1} \cdot \text{cm}^{-2}$
Accuracy	$\pm 30 \%$	$\pm (20+2/H)\%$, where H - dose rate in μ Sv/h	$\pm (20+2/H)\%$, where H - dose rate in μ Sv/h	$\pm (20+2/H)\%$, where H - dose rate in μ Sv/h	$\pm (30+10/H)\%$, where H - dose rate in μ Sv/h	$\pm (20+A/\varphi)\%$, where A for alpha radiation - $10 \text{ min}^{-1} \cdot \text{cm}^{-2}$, for beta radiation $100 \text{ min}^{-1} \cdot \text{cm}^{-2}$, φ - flux density in $\text{min}^{-1} \cdot \text{cm}^{-2}$
Relative energy resolution on ¹³⁷Cs	not more than 7 %	not more than 7,5 %	not more than 3,5 %	-	-	-
Integral nonlinearity	not more than 1 %	not more than 0,5 %	not more than 0,5 %	-	-	-
Size	82x180x61 mm	290x70 mm	290x70 mm	162x40 mm	230x60 mm	72x45x130 mm
Weight, not more than	750 g (26.5 oz)	1300 g (45.9 oz)	1300 g (45.9 oz)	110 g (3.88 oz)	660 g (23.3 oz)	480 g (16.9 oz)



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Data recording	up to 1000 sets of data (including: time and date; spectra; time of a spectrum accumulation; dose rate (count rate, flux density); real time in a measurement mode; error message)
Alarm type	Visual, audible
Environmental protection	IP65
Power supply	built-in accumulator
Operation temperature	-20°C to 50°C (-4°F to 122°F)

Design and specifications of the device can be changed without further notice.



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