



Innovating Radiation Detection Technologies Since 1992

MULTIPURPOSE RADIATION MONITOR

PM1403



This highly versatile Hand-held radiation monitor is a robust spectroscopic and lightweight powerhouse. 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 BDGI is based on the highly sensitive spectroscopic scintillation detector material NaI(Tl). BDGI is capable of search and spectroscopic functions.

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

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 10Sv/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



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SPECIFICATIONS

	MAIN UNIT	BDG1	BDG1H	BDG2	BDN	BDAB
Detector	CsI(Tl)	NaI(Tl)	LoBr3	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 μSv/h (10 μR/h - 4 mR/h)	gamma 0.1 μSv/h - 1 mSv/h (10 μR/h - 100 mR/h)	gamma 0.1 μSv/h - 1 mSv/h (10 μR/h - 100 mR/h)	gamma 0.1 μSv/h - 10 Sv/h (10 μR/h - 1000 R/h)	neutron (Pu-Be sources) 1 μSv/h - 5 mSv/h (10 μR/h - 0.5 R/h)	-
Flux density	-	-	-	-	-	alpha 10 ⁻⁵ - 10 ⁵ min ⁻¹ cm ⁻² beta 10 ⁻¹⁰ - 10 ⁶ min ⁻¹ cm ⁻²
Accuracy	±30 %	± (20+2/H)%, where H - dose rate in μSv/h	± (20+2/H)%, where H - dose rate in μSv/h	± (20+2/H)%, where H - dose rate in μSv/h	± (30+10/H)%, where H - dose rate in μSv/h	± (20+A / <p>)%, where A for alpha radiation - 10 min ⁻¹ cm ⁻² , for beta radiation 100 min ⁻¹ cm ⁻² , (j) - flux density in min ⁻¹ 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; spectro; time of spectroscopy accumulation; dose rate (count rate, flux density); real time in 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.