輻 射 偵 測 器

Radiation Survey Meter

白俄羅斯 POLIMASTER　　型號：PM1405

Since 1993

簡介：

Polimaster PM1405 是一款小巧可攜帶式的多功能偵測儀，可測量 x 射線,伽馬和 β 輻射。

特點/規格：

1. 偵測輻射種類：X-ray、Gamma、Beta 射線
2. 偵測範圍：0.01 μSv/h ~ 130 mSv/h，
   6 ~ 1,000 particle/($min^{-1}.cm^{-2}$)
3. 解析度：0.01 μSv/h
4. 能量反應範圍：Gamma 及 X 射線：0.05 ~ 3.0MeV；
   Beta 射線：0.1 ~ 3.5 MeV
5. 能量依存性：<=±30% (相對於 Cs - 137)
6. 儀器操作模式：
   (1) 光子輻射劑量率測量模式
   (2) 粒子通量密度測量模式
   (3) 輻射源搜尋模式
   (4) 功能表指示模式
   (5) 設定模式
   (6) 電腦資料交換模式
   (7) 測試模式

7. 顯示方式：
   (1) LCD 液晶數字顯示，顯示測量值、警報訊息、狀態訊息。
   (2) 劑量率即時統計誤差百分比。
   (3) 背光(back light)顯示。
8. 具有滑動屏幕過濾器，在測量模式時關閉；在 Beta 通量密度測量模式時打開或關閉，為 Beta 粒子的屏幕。
9. 傳輸 PC：USB 介面。
10. 尺寸：148×80×38 mm，重量：約 290 克。
11. 電源：2 個 3 號電池可使用約 6 個月，或經 USB 由 PC 供電。
12. 投標時附原製造廠出具之售後服務能力證明。

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POLIMASTER®

Innovating Radiation Detection Technologies Since 1992

SURVEY METER
PM1405

The PM1405 Survey Meter measures beta radiation flux density from contaminated surfaces and ambient dose equivalent rate of gamma and X-ray radiation.

Gamma and X-ray radiation dose equivalent measurement and alpha radiation flux density measurement can be optionally provided under customer's request.

The instrument alerts the user with audible alarms when preset radiation thresholds are exceeded and registers with audio signal every detected count in a search mode.

Application-specific user software allows for the remote control of the instruments connected to a PC through USB interface from any PC integrated into the network.
This function allows an administrator to monitor and control operation of each instrument.

Features

- Dose rate measurement of gamma and X-ray radiation
- Measurement of beta particles flux density
- Search for beta, gamma and X-ray radiation sources mode
- Large LCD display with backlight
- Audible alarm
- Data logging capability
- PC communication via USB
- Universal power supply: two AA batteries or from PC via USB
- Light weight and small dimensions

Applications

- First responders
- Custom and border patrol officers
- Radiological and radionuclide isotope laboratories
- Bank personnel
- Wide range of experts whose activity involves the monitoring of radiation sources

Optional

- Dose measurement of gamma and X-ray radiation
- Measurement of alpha particles flux density
- Search for alpha radiation sources
- Extended beta flux density measurement range 6.0 - 10^4 $min^{-1} \cdot cm^{-2}$

α β γ USB

ALARM

LOCATION

MEASUREMENT

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SURVEY METER
PM1405

SPECIFICATIONS

Gamma detector	Geiger-Mueller counter
Dose equivalent rate (DER) indication range	0.01 μSv/h - 130 mSv/h
DER measurement range	0.1 μSv/h - 100 mSv/h
Accuracy of DER measurement	±(20 + K/X)%, where X - DER value in μSv/h, K = 1.0 μSv
X-ray and gamma radiation energy range	0.05 to 3.0 MeV
Energy dependence relative to 0.662 MeV (^{137}Cs) in the energy range 0.06 - 3.0 MeV, not more than	±30 %
Beta flux density indication range	0.1 - 10^4 $min^{-1}\cdot cm^{-2}$
Beta flux density measurement range	6.0 - 10^3 $min^{-1}\cdot cm^{-2}$
Accuracy of beta flux density measurement relative to (^{90}Sr+^{90}Y)	(20 + A/φ) %, where φ - beta flux density, $min^{-1}\cdot cm^{-2}$, A = 60 $min^{-1}\cdot cm^{-2}$
Beta radiation energy range	0.1 to 3.5 MeV
Beta sensitivity relative to (^{90}Sr+^{90}Y), not less than	3.5 counts·cm^2
Communication with computer	USB interface
Power requirements	two AA batteries or external from PC via USB
Batteries lifetime	6 months typical
Environmental: - temperature range - relative humidity	 -10 to +50°C up to 95 % at 35°C
Weight, max	290 g
Dimensions	148x80x38 mm

OPTIONAL SPECIFICATIONS AVAILABLE UNDER REQUEST

Beta flux density measurement range	6.0 - 10^4 $min^{-1}\cdot cm^{-2}$
Dose equivalent (DE) indication range	0.01 μSv - 10.0 Sv
DE measurement range	1.0 μSv - 10.0 Sv
Accuracy of DE measurement	±20 %
Alpha flux density indication range	0.1 - 10^4 $min^{-1}\cdot cm^{-2}$
Alpha flux density measurement range	90 - 10^4 $min^{-1}\cdot cm^{-2}$
Accuracy of alpha flux density measurement on ^{239}Pu	±(20 + A/φ) %, where φ - alpha flux density, $min^{-1}\cdot cm^{-2}$, A= 60 $min^{-1}\cdot cm^{-2}$

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

ISO 9001

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