

YD-100A Electronic Personal Dosimeter



YD-100A

Electronic Personal Dosimeter

X、 γ Personal Dose Meter

Metal GM counter

Product Description

The YD-100A Personal Alarm Dosimeter employs a metal compensation-type GM counter tube as its radiation detector. The instrument is characterised by high sensitivity, stable counting performance, and a wide measurement range, providing accurate detection of X and γ radiation. A high-speed embedded microprocessor and a 1.8-inch TFT colour LCD are integrated into the device, and operation is facilitated by silicone keypad buttons. The instrument is intended for personal radiation dose monitoring and alarm functions in occupational exposure scenarios.

Features

- A high-speed embedded microprocessor is employed to ensure real-time processing of monitoring data and system status.
- A 1.8-inch TFT colour LCD with a user-friendly interface is provided for intuitive and efficient operation.
- A real-time 90-second dose rate measurement graph is displayed on-screen.
- Up to 512 dose rate alarm records are automatically stored; data are retained during power loss, and alarm logs are accessible for manual review.
- Alarm thresholds for both dose rate and cumulative dose are user-configurable.
- Dual alarm modes — vibration and audible alarm — are provided.
- Over-threshold alarm performance is characterised by short dead time and robust operation under high-dose-rate conditions.
- A GM counter tube fault detection and alert function is included.
- An integrated real-time clock displays year, month, and day; clock operation is unaffected by power-off.

Applications

Youdao Environmental Technology (Shenzhen) Co., Ltd.

5th Floor, Jiada R&D Building, No. 5 Songpingshan Road, Nanshan District, Shenzhen, PRC

<https://ydhjkj.cn>; sales@ydhjkj.cn; +86-755-23736433 / +86-18129873251

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The instrument has been tested and verified by a calibration laboratory against its stated technical specifications. It is suitable for use across a broad range of radiation environment monitoring and radiological protection inspection scenarios, including household decoration radiation detection, medical facilities, disease control and prevention, environmental protection, metallurgy, petroleum, chemical processing, radiological laboratories, radiation processing, mining, and other settings where radiation monitoring is required.

Specification

Parameter	Specification
Detector	Metal GM counter tube
Energy response	50 keV – 5 MeV, response variation $\leq\pm 20\%$
Detectable radiation types	X, γ , and hard beta radiation
Measurement range	Dose rate: 0.05 $\mu\text{Sv/h}$ – 50 mSv/h; Cumulative dose: 0 – 999.99 mSv
Display	1.8-inch TFT colour LCD
Sensitivity	>1 CPS at 1 $\mu\text{Sv/h}$
Relative intrinsic error	$\leq\pm 15\%$ (^{137}Cs , 200 $\mu\text{Sv/h}$)
Response time	≤ 2 s
Operating environment	Temperature: -10°C to $+50^{\circ}\text{C}$; relative humidity: $\leq 95\%$ (at 40°C)
Power supply	3.7 V / 1000 mAh rechargeable lithium battery; real-time battery voltage monitoring with low-battery alert
Enclosure	Plastic
Weight and dimensions	Approx. 150 g (including battery); $125 \times 70 \times 20$ mm

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