

YD-800 X/γ Online Radiation Alarm Monitor



YD-800

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7*24

X-γ Area Radiation Detection

Product description

The YD-800 Fixed X-γ Area Radiation Detection and Alarm Device is a continuous radiation monitoring and alarm instrument designed for 24/7 monitoring of ambient dose rate levels. When the preset alarm threshold is exceeded, the device provides audible and visual warning alerts. The instrument is built around a high-speed embedded microprocessor and features a large-format IPS touchscreen LCD, ensuring real-time monitoring with rapid response in a user-friendly and intuitive interface. Reliable communication is employed between the main unit and each probe, enabling the main unit to display the real-time dose rate of every connected probe and continuously indicate the current measurement data and status of each probe. Optional radiation area monitoring software is available for deployment according to site-specific requirements.

Features

- A high-speed embedded microprocessor is employed to ensure real-time performance and stability of monitoring data and system status.
- A 7-inch 1024 × 600 IPS LCD with a Chinese/English-language operator interface is provided for ease of use.
- Dose rate units are switchable between $\mu\text{Gy/h}$ and $\mu\text{Sv/h}$.
- A single main unit supports simultaneous connection of multiple probes.
- An automatic probe recognition function is included, facilitating convenient probe replacement and maintenance.
- Alarm thresholds are continuously adjustable (factory default: high threshold = $2.5 \mu\text{Sv/h}$).
- Real-time probe status is displayed for each probe: normal / alarm / overload / offline.
- Each probe supports multiple alarm modes, with audible and visual alarm as standard; external alarm units may be connected, and alarm output signals are available for interlock integration.
- Each probe features two alarm modes — upper-limit alarm and lower-limit alarm —

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providing flexible applicability to various radiological safety alarm scenarios.

- The main unit automatically records and stores alarm information; data are retained during power loss. Threshold alarm records may be manually reviewed.
- An integrated real-time clock displays year, month, and day; clock operation is unaffected by power interruption.
- Communication: standard RS485 interface with a transmission distance of up to 800 metres.
- An optional built-in battery is available for vehicle-mounted dose monitoring and applications where mains power supply is unstable.
- Custom development is available upon request, including wireless probes, networked system configurations, and other requirements.

Applications

Radioactive waste repositories、Industrial non-destructive testing (NDT)、Radioisotope application facilities、Gamma irradiation installations、Hospital X-ray diagnostics、Cobalt-60 applications Nuclear medicine departments、Nuclear power plants (NPPs)、Other nuclear-related sites



GM Detector

Parameter	Specification
Detector	GM detector (energy-compensated)
Measurement Range	0.01 $\mu\text{Sv/h}$ ~ 2.5 mSv/h (or 0.1 $\mu\text{Sv/h}$ ~ 300 mSv/h)
Sensitivity	>5 CPS at 1 $\mu\text{Sv/h}$ (referenced to ^{137}Cs)
Response Time	$\leq 2\text{s}$
Relative Intrinsic Error	$\leq \pm 15\%$
Energy Response	48 keV ~ 3 MeV, $\leq \pm 30\%$

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Parameter	Specification
Operating Conditions	Temperature: -10°C to $+50^{\circ}\text{C}$; Relative humidity: $\leq 98\%$ (at 40°C)
Dimensions	Host: $260 \times 160 \times 68$ mm (excl. stand); Probe: $\phi 60 \times 320$ mm



Scintillation Detector

Parameter	Specification
Detector	Scintillator + Photomultiplier Tube (PMT)
Energy Response	38 keV ~ 7 MeV
Detectable Radiation	X-rays, γ -rays
Measurement Range	Dose rate: $0.01 \mu\text{Sv/h} \sim 1 \text{ Sv/h}$; Accumulated dose: $0 \sim 9999 \text{ mSv}$
Display	Desktop 8-inch color LCD touchscreen
Sensitivity	$>50 \text{ CPS}$ at $1 \mu\text{Sv/h}$ (referenced to ^{137}Cs)
Relative Intrinsic Error	$\leq \pm 10\%$ (^{137}Cs , at $100 \mu\text{Sv/h}$)
Response Time	1 s
Refresh Rate	1 reading per second
Operating Environment	Temperature: -10°C to $+50^{\circ}\text{C}$; Relative humidity: $\leq 95\%$ (at 40°C)
Power Supply	AC mains, 220 V
Weight & Dimensions	Approx. 500 g; $\phi 58 \times 263$ mm

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