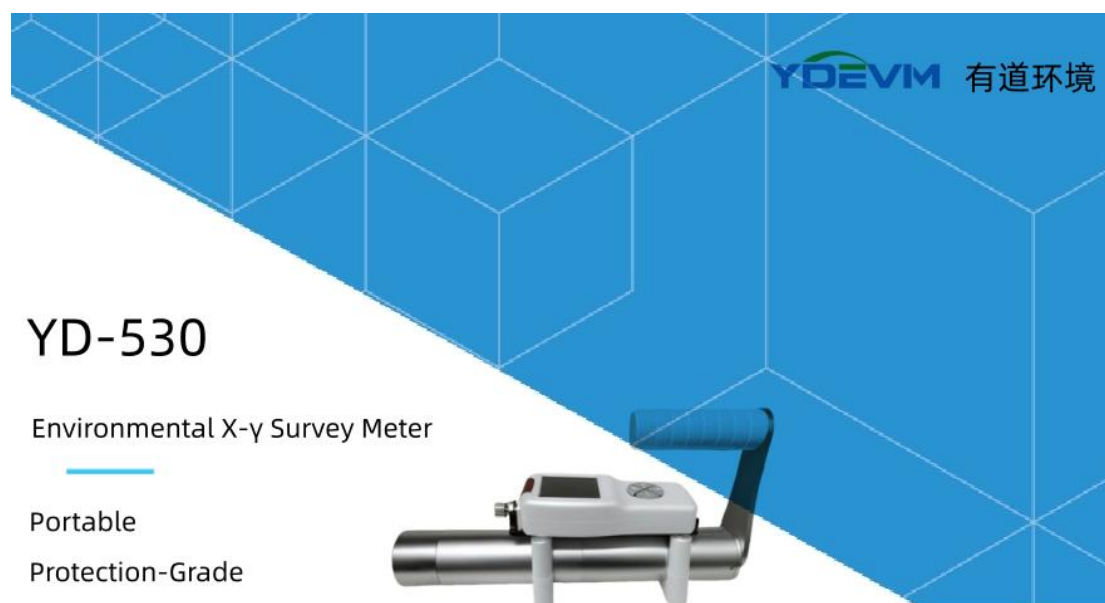


YD-530 Environmental X-γ Survey Meter



YD-530

Environmental X-γ Survey Meter

Portable

Protection-Grade

Product Description

The instrument employs a plastic scintillator detector, offering high sensitivity and a high count rate capacity. Combined with dedicated signal processing techniques, a single-crystal configuration achieves the integration of high sensitivity and an exceptionally wide measurement range spanning nine orders of magnitude. The instrument complies with JJG 393-2018, *Verification Regulation of Portable X-γ Ambient Dose Equivalent (Rate) Meters and Monitors*. It is intended for routine X and γ radiation survey duties in radiological workplace environments.

Features

- Low-energy filtering and energy compensation techniques are employed to achieve millisecond-level response. A radiation pulse count mutation algorithm combined with a rapid pulse frequency smoothing method effectively extends the detector's measurement range and improves linearity.
- An automatic stabilisation technique provides strong immunity to variations in ambient temperature and electromagnetic fields.
- Favourable full-angle response characteristics.
- A self-test mode is provided, incorporating an LED-based stability verification method that requires no reference source.
- Alarm thresholds are configurable across the full measurement range; dose rate overload and detector fault alarm functions are included.
- Lightweight and portable design with multi-function capability and a wide measurement range.
- Short-duration pulsed radiation is detectable.
- Built-in rechargeable battery supports continuous operation for 12 hours.
- Two independent digital communication interfaces (RS485 and RS232) are provided, accommodating both remote data transmission and local maintenance.
- Rich extended communication options are supported, including Bluetooth, LoRa, ZigBee,

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cellular data network, and Wi-Fi.

- Protection rating: IP65; custom enclosure fabrication in various materials is available upon request.

Applications

The instrument is intended for use in radiological medicine, occupational health, environmental protection, smelting and metallurgy, petroleum, chemical processing, radiological laboratories, nuclear medicine radioisotope applications, industrial non-destructive testing (NDT), radiation processing, outdoor geological surveying, cave exploration, and other settings where X and γ radiation monitoring is required.

Specifications

Parameter	Specification
Detector	φ30 × 15 mm plastic scintillator + photomultiplier (PMT)
Energy response	15 keV – 6.0 MeV
Detectable radiation types	X, γ
Measurement range	Dose rate: 100 nSv/h – 1 Sv/h (optional: 0 – 10 Sv/h)
Display	LCD
Sensitivity	≥100 cps/(μSv/h)
Relative intrinsic error	≤±10% (¹³⁷ Cs, 100 μSv/h)
Response time	1 s
Operating environment	Temperature: –40°C to +55°C; relative humidity: ≤95% (at 40°C)
Power supply	7.4 V rechargeable lithium battery; real-time battery voltage monitoring with low-battery icon flashing alert
Enclosure	Customisable

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