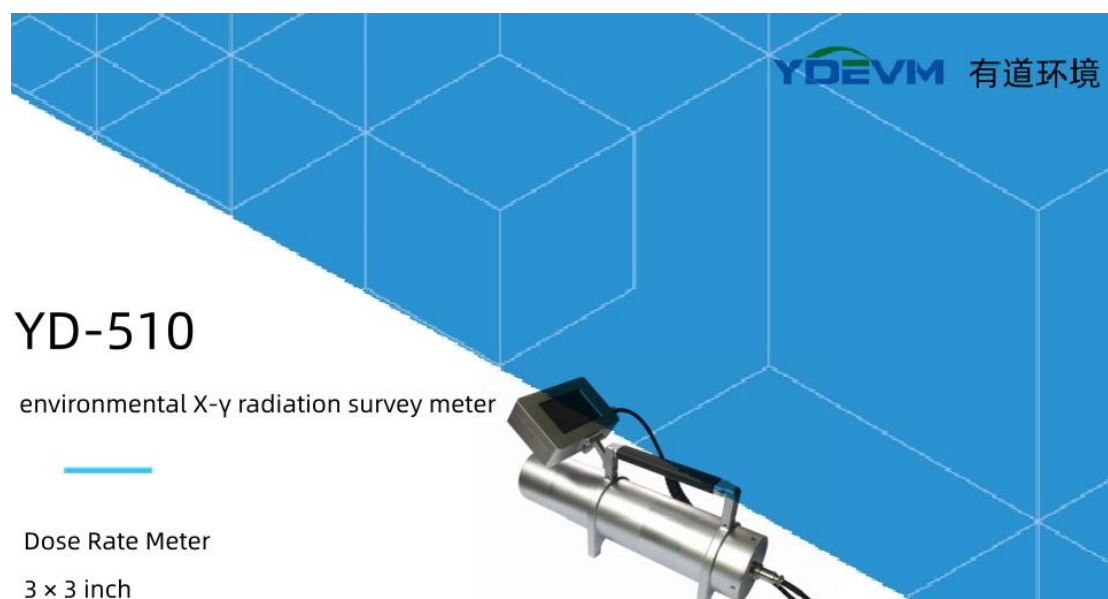


# YD-510 Environmental X-γ Survey Meter



## YD-510

environmental X-γ radiation survey meter

Dose Rate Meter

3 × 3 inch

### Product description

The YD-510 Environmental X-γ Survey Meter combines a large-volume 3 × 3 inch plastic scintillator with a secondary GM detector in a single instrument. This dual-detector architecture enables both high-sensitivity environmental monitoring and extended-range protection-grade measurement without switching devices. The scintillator responds to fast X-ray exposure pulses, while the wide dynamic range spans from low background levels to high dose rates. A 3.5-inch colour touchscreen provides a bilingual operator interface for real-time data visualisation, alarm management, and threshold configuration. Onboard memory stores up to 4,000 alarm records with power-loss protection. The instrument complies with JJG 521-2006 requirements and is deployed across environmental monitoring, medical facilities, NDT radiography, and radiological laboratories where a single device covering both environmental and protection-grade applications is required.

### Features

- High-speed embedded microprocessor is employed; a large-volume plastic scintillator (3 × 3 inch) serves as the core sensor.
- Fast X-ray exposure pulses are detectable.
- 3.5-inch colour touchscreen LCD with a bilingual operator interface, designed for rapid familiarisation and straightforward operation.
- Cumulative dose is automatically saved and retained during power loss; alarm records are accessible for manual review.
- Alarm thresholds for dose rate and cumulative dose are independently configurable.
- Storage capacity of 4000 alarm data records.
- Over-threshold audible alarm with short dead time ensures robust performance under high-dose-rate conditions.
- Integrated real-time clock displays year, month, and day; clock operation is unaffected by power interruption.

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# YD-510 Environmental X-γ Survey Meter

## Applications

- Environmental monitoring and regulatory compliance
- Nuclear medicine departments and hospitals
- Industrial non-destructive testing (NDT) and radiography
- Radiological laboratories and research facilities
- Radiation processing and sterilization
- Mining and geological surveying
- Metallurgy and petrochemical processing
- Disease control and public health agencies

## Specifications

| Parameter                  | Specification                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Detector                   | 3 × 3 inch plastic scintillator + metal GM counter                                                                       |
| Energy response            | 20 keV – 7 MeV (plastic scintillator detector); 60 keV – 3 MeV (GM counter)                                              |
| Detectable radiation types | X, γ                                                                                                                     |
| Measurement range          | Dose rate: 10 nSv/h – 100 mSv/h (optional: 10 nSv/h – 5 Sv/h); Cumulative dose: 0 – 9999 mSv                             |
| Display                    | 3.5-inch colour touchscreen LCD                                                                                          |
| Sensitivity                | >1500cps/(μSv/h) (scintillator detector); >2.0 cps/(μSv/h) (GM counter) ( <sup>137</sup> Cs)                             |
| Relative intrinsic error   | ≤±10% (scintillator)( <sup>137</sup> Cs, 100 μSv/h); ≤15% (GM)                                                           |
| Response time              | 5 ms                                                                                                                     |
| Operating environment      | Temperature: –25°C to +50°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                  | Fully aluminium alloy construction; robust and durable                                                                   |
| Weight and dimensions      | Approx. 4 kg (excluding battery); Main unit: 80 × 120 × 40 mm; Detector probe: φ80 × 335 mm (excluding mounting bracket) |

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