

AT1121 AT1123

X-RAY AND GAMMA RADIATION DOSIMETER

MEASURING RADIATION WITH
EXPOSURE TIME
from 10 ns to ∞
50 nSv/h – 10 Sv/h 15 keV – 10 MeV

Radiation	AT1121		AT1123	
	$\dot{H}^*(10)$	$H^*(10)$	$\dot{H}^*(10)$	$H^*(10)$
X-ray	+	+	+	+
Gamma	+	+	+	+
Bremsstrahlung	+	+	+	+
Continuous	+	+	+	+
Short-term	+	+	+	+
Pulsed	-	-	+	+
Beta (detection)	+	+	+	+

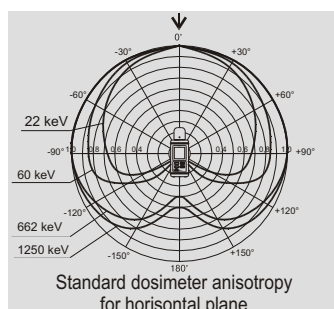
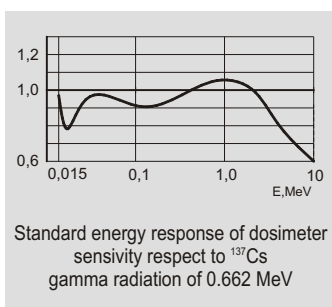
Features

- Portable multifunctional wide-range instruments
- Short-term radiation (from 30 ms) and pulsed radiation from 10 ns (AT1123)
- Tissue-equivalent detector - scintillation plastic with heavy metal admixtures
- Gamma and beta radiation source search
- Ambient equivalent dose and dose rate measuring
- Exposure time assessment
- Built-in LED stabilization system of the measuring path providing no need to use a reference source
- Large backlit LCD
- Remote measuring with remote control
- Stationary application as an alarm dosimeter with remote control on distance up to 25 m
- Audible and visual alarm at threshold exceeding
- Three types of power
- Extreme environment operation



Application

- X-ray diagnostics
- Nuclear medicine
- Radiology
- X-ray and gamma non-destructive test
- Radiography
- Customs x-ray equipment
- Radiation emergency
- Radiation monitoring
- Nuclear industry
- Acceleration equipment
- Scientific research



ATOMTEX

INSTRUMENTS AND TECHNOLOGIES FOR
NUCLEAR MEASUREMENTS AND RADIATION MONITORING

The main dosimeter function is to measure pulsed radiation with a pulse duration from 10 ns (AT1123), short-term radiation with a pulse duration from 30 ms and continuous x-ray and gamma radiation in wide ranges of ambient dose equivalent rate and energy. The instruments detect soft and hard gamma radiation sources, beta radiation sources, short-term and pulsed radiation with exposure time assessment, and detects moving irradiators as well. Use the instrument keyboard to setup any thresholds from the whole measuring range. The instruments save automatically the maximum dose rate value. They keep for long time 1998 measurement results in the nonvolatile memory and are able to transfer data to PC with the rate from 300 to 19200 baud. The instruments have the self-testing mode which starts at switching-on and continues within dosimeter operation. There is no need to use a reference source because of LED stabilization of the measuring path.

Specification

<p>Detector scintillation plastic with heavy metal admixtures, Ø30x15 mm</p> <p>Ambient dose equivalent rate measuring range of continuous radiation 50 nSv/h - 10 Sv/h</p> <p>Ambient dose equivalent rate measuring range of short-term radiation 5 µSv/h - 10 Sv/h</p> <p>Ambient dose equivalent rate measuring range of pulse radiation (AT1123) 0.1 µSv/h - 10 Sv/h</p> <p>Minimum pulse duration at dose rate up to 1.3 Sv/s within the pulse (AT1123) 10 ns</p> <p>Minimum pulse duration for short-term radiation 30 ms</p> <p>Ambient dose equivalent measuring range 10 nSv - 10 Sv</p> <p>Intrinsic measurement error continuous and short-term radiation ± 15 % pulse radiation ± 30 %</p> <p>Energy range 15 keV - 10 MeV</p> <p>Sensitivity on ¹³⁷Cs 70 cps/µSv · h⁻¹</p> <p>Gamma radiation dose rate (¹³⁷Cs) measurement time does not exceed following values with the statistical error of up to ±20% (P=0,95) for the dose rate value of 50 nSv/h less than 60 s for the dose rate value of 100 nSv/h ... less than 10 s for the dose rate value more than 2 µSv/h (up to 10 Sv/h) less than 2 s</p>	<p>Energy sensitivity response respect to ¹³⁷Cs: from 15 keV to 60 keV ±35% from 60 keV to 3 MeV ±25% from 3 MeV to 10 MeV ±50%</p> <p>Sensitivity to accompanying beta radiation of ⁹⁰Sr+⁹⁰Y at 5 cm when the cap "0.06 - 10 MeV" is on 3 · 10⁻⁷ µSv · h⁻¹ · Bq⁻¹</p> <p>Operation mode setup time 1 min</p> <p>Continuous operation time AC mains or DC supply not less than 24 h built-in accumulator unit AT1121 not less than 24 h AT1123 not less than 12 h</p> <p>Operating temperature range -30 ÷ +50°C</p> <p>Relative humidity at 35 C° 95%</p> <p>Protection class IP54</p> <p>Power requirements built-in NiMh accumulator unit 6 V AC mains 220 V DC supply 12 V</p> <p>Radio disturbance EN 55022:1998+A1:2000+A2:2003</p> <p>Electromagnetic compatibility CEI/IEC 61000-4-2:1995 IEC 61000-4-3:1995</p> <p>Weight 0.9 kg</p> <p>Dimensions 233x85x67 mm</p>
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Complete set: dosimeter, cap "0.06 - 10 MeV" with filter, AC adapter, hand strap, handle, holster and Manual. Remote control with the cable up to 25 m long, audible and visual alarm unit with the cable up to 25 m long, cable to connect PC and applied software, cable for DC supply, telescopic bar 1.1 m, packing case or bag are options and they are supplied **on additional order**.

X-ray and gamma radiation dosimeters AT1121 and AT1123 have pattern approval certificates of Republic of Belarus, Russian Federation, Ukraine, Lithuania and Kazakhstan. They comply with IEC 60846 International standard requirements.

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