

AT1121, AT1121A AT1123, AT1123A

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 AT1121A		AT1123 AT1123A	
	$\dot{H}^*(10)$	$H^*(10)$	$\dot{H}^*(10)$	$H^*(10)$
X-ray	+	+	+	+
Gamma	+	+	+	+
Bremsstrahlung	+	+	+	+
Continuous	+	+	+	+
Short-term	+	+	+	+
Pulsed	-	-	+	+
Beta (detection)	+	+	+	+

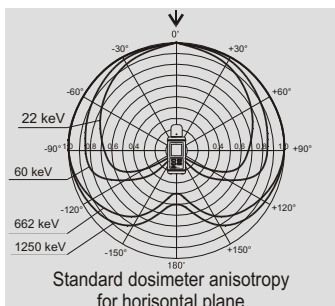
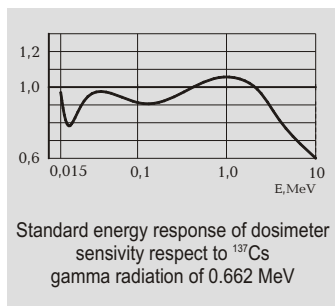
Features

- Portable multifunctional wide-range instruments
- Short-term radiation (from 30 ms) and pulsed radiation from 10 ns (AT1123, AT1123A)
- 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
- 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, AT1123A), 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 100 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

Detector	scintillation plastic with heavy metal admixtures, Ø30x15 mm	Operation mode setup time	1 min
Ambient dose equivalent rate measuring range of continuous radiation		Continuous operation time	
AT1121, AT1123	50 nSv/h - 10 Sv/h	AC mains or DC supply	not less than 24 h
AT1121A, AT1123A	50 nSv/h - 5 Sv/h	built-in accumulator unit	not less than 12 h
Ambient dose equivalent rate measuring range of short-term radiation		Operating temperature range	
AT1121, AT1123	50 nSv/h - 10 Sv/h	AT1121, AT1123	-30 ÷ +40°C
AT1121A, AT1123A	50 nSv/h - 5 Sv/h	AT1121A, AT1123A	-30 ÷ +50°C
Ambient dose equivalent rate measuring range of pulse radiation		Intrinsic measurement error	± 15 %
AT1123	1 µSv/h - 10 Sv/h	Calibration error	± 5 %
AT1123A	1 µSv/h - 5 Sv/h	Complementary error	
Minimum pulse duration at dose rate up to 1.3 Sv/s within the pulse (AT1123, AT1123A)	10 ns	within operating temperature range	±10%
Minimum pulse duration for short-term radiation	30 ms	Relative humidity at 35 C°	98%
Ambient dose equivalent measuring range	50 nSv - 10 Sv	Protection class	IP54
Energy range		Power requirements	
AT1121, AT1123	0,015 - 10 MeV	built-in NiMh accumulator unit	6 V
AT1121A, AT1123A	0,02 - 10 MeV	AC mains	220 V
Energy sensitivity response respect to ¹³⁷Cs:		DC supply	12 V
from 15 keV to 60 keV	±35%	Radio disturbance	
from 60 keV to 3 MeV	±25%	CEI/IEC CISPR 22:1997	
from 3 MeV to 10 MeV	±50%	Electromagnetic compatibility	
Sensitivity on ¹³⁷Cs	100 cps/µSv · h ⁻¹	CEI/IEC 61000-4-2:1995	
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	IEC 61000-4-3:1995	
		Weight	0.9 kg
		Dimensions	233x85x67 mm

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 1.6 m, packing case are options and they are supplied **on additional order**.

X-ray and gamma radiation dosimeters AT1121, AT1121A, AT1123 and AT1123A 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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