

# AT6130C Radiation Monitor

## Pocket Radiation Monitor



Compact reasonably priced device intended for gamma and X-radiation radiation ambient dose equivalent and ambient dose equivalent rate measurement.

### Operating principle

Device operating principle is based on the process of count rate measurement of impulses, generated in Geiger-Muller counter tube under the influence of gamma radiation.

Count rate is converted automatically into measurable physical values throughout the range. Energy compensating filter allows correcting energy dependence of sensitivity efficiently in entire energy range of gamma radiation.

Microprocessor-based unit is responsible for controlling the radiation monitor operating modes, calculations, storing and displaying measurement results and for self-checking function.

### Applications

- Radiation protective measures in case of nuclear disasters
- Civil protection
- Radioecology
- Fire-fighting service
- Customs service
- Dosimetric monitoring in manufacturing facilities, health care and other institutions

### Features

- Low weight and small size
- Automatic compensation of intrinsic detector background
- Sound and visual alarm in case threshold level is exceeded for dose and dose rate
- Rapid reaction to statistically significant change of dose rate (measurement process restart)
- Dose rate and dose thresholds can be selected in entire measurement range and saved when the radiation monitor is switched off
- Field operation capability over a wide temperature range
- In search mode each registered gamma quantum is indicated by a sound signal
- Up to 100 measurement results can be stored in non-volatile memory with information about measurement date and time
- Measurement results, current time, date and battery life indicator is displayed on matrix LCD screen
- Bright white backlit LCD-screen



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INSTRUMENTS AND TECHNOLOGIES FOR NUCLEAR  
MEASUREMENTS AND RADIATION MONITORING

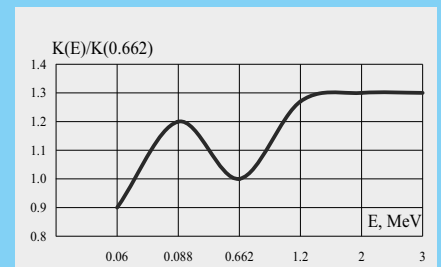
# AT6130C Radiation Monitor

## Specification

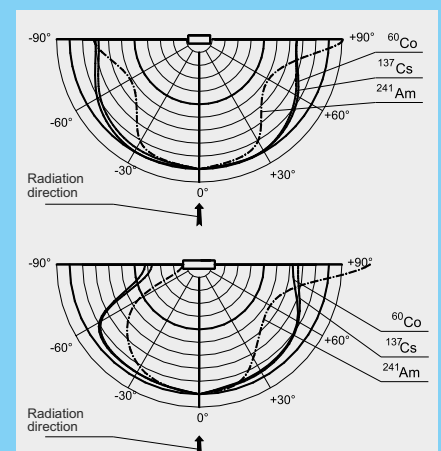
Ambient gamma and X radiation dose equivalent rate indication range	0.01 $\mu\text{Sv/h}$ ...1 mSv/h (or 1 $\mu\text{rem/h}$ ...100 mrem/h)*
Ambient gamma and X radiation dose equivalent rate measurement range	0.1 $\mu\text{Sv/h}$ ...1 mSv/h (or 10 $\mu\text{rem/h}$ ...100 mrem/h)*
Ambient gamma and X radiation dose equivalent indication range	1 nSv...100 mSv (or 0.1 $\mu\text{rem}$ ...10 rem)*
Ambient gamma and X radiation dose equivalent measurement range	0.1 $\mu\text{Sv}$ ...100 mSv (or 10 $\mu\text{rem}$ ...10 rem)*
Intrinsic relative error of dose rate measurement in the range from 0.1 $\mu\text{Sv/h}$ to 1 mSv/h	$\pm 20\%$ max.
Energy range	50 keV...3 MeV
Sensitivity to $^{137}\text{Cs}$ gamma radiation	2.8 cps/ $\mu\text{Sv}\cdot\text{h}^{-1}$
Response time for dose rate change from 1 to 10 $\mu\text{Sv/h}$	$\leq 7\text{s}$ (accuracy error $\leq \pm 10\%$ )
Energy dependence relative to 662 keV ( $^{137}\text{Cs}$ )	$\pm 30\%$
Radiation overloading	Radiation monitor can withstand 100-fold rise of dose rate measurement upper range limit for 5 minutes with readings not lower than maximum
Burn-up life	$\geq 100\text{ Sv}$
Continuous run time in natural background conditions	$\geq 700\text{ h}$
Working temperature range	$-20^\circ\text{C}$ ... $+55^\circ\text{C}$
Relative humidity with air temperature $\leq 35^\circ\text{C}$ without condensation	$\leq 95\%$
Drop protection	From $\leq 1.5\text{ m}$ to hard surface
Protection class	IP40
Power supply	2 x AA-size batteries (LR 6) or 2 x AA-size rechargeable cells with nominal voltage 1.2 V
Overall dimensions	111x70x28 mm
Weight	0.2 kg

\* Units of measure are chosen during ordering procedure and cannot be altered later

Design and specifications are subject to change without notice



Normal energy response of monitor sensitivity respect to  $^{137}\text{Cs}$  gamma radiation of 662 keV



Standard sensitivity response upon gamma radiation incidence angle respect to the calibration direction

The radiation monitor AT6130C meets International standard requirements:

IEC 60846-1:2009

IEC 60325:2002

Safety standard requirements:

IEC 61010-1:2001

EMC requirements:

EN 55011:2009

IEC 61000-4-2:2008

IEC 61000-4-3:2008

The radiation monitor AT6130C has the pattern approval certificates of Republic of Belarus, Russian Federation, Ukraine, Kazakhstan and Lithuania.



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