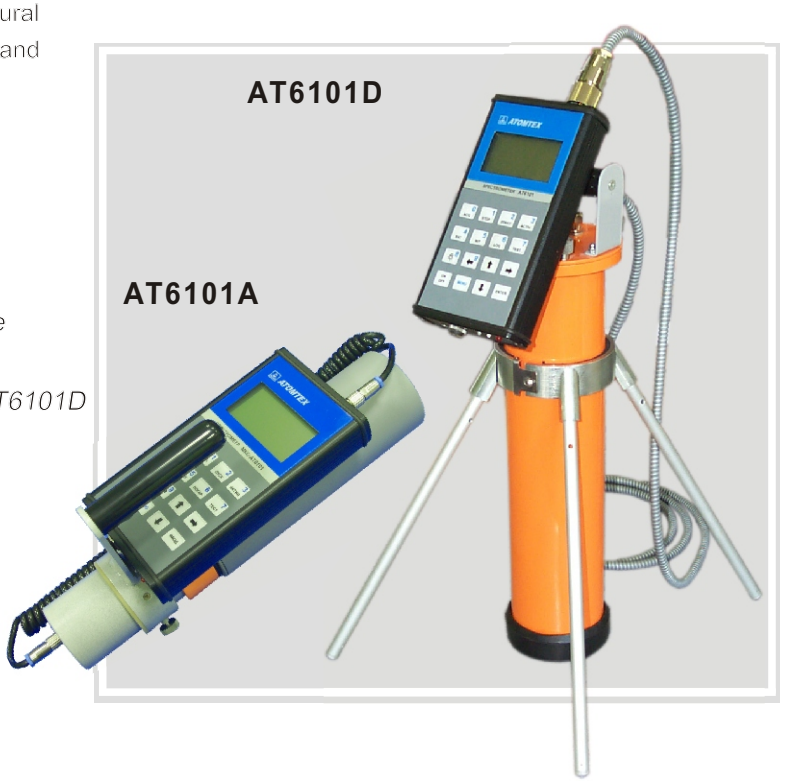
AT6101A
AT6101D

SPECTROMETERS

gamma spectral analysis
radionuclide activity evaluation

AT6101A - portable multifunctional scintillation gamma radiation spectrometer to measure gamma radiation energy distribution, evaluate gamma radioactivity of different source geometries chosen by user and perform other radiation monitoring tasks.

AT6101D - portable multifunctional scintillation gamma radiation spectrometer to measure gamma radiation energy distribution and evaluate effective specific activity of natural radionuclides in rocks, building materials and products and water without sampling.



Features

- *Spectrometric smart probes with computer interface*
- *2-π and 4-π measuring (on surface and in holes)-AT6101D*
- *Instrument and firmware recalibration - AT6101A*
- *Continuous automatic LED stabilization of the energy scale and its periodic calibration check-up using a KCl check sample*
- *Digital temperature compensation of the measuring path*
- *Logging up to 300 spectra*
- *Spectrometric data readout on a backlit LCD 128x64*
- *Field operation*
- *Hermetic temperature and shock proof enclosure - AT6101D*

Application

- *Environmental monitoring*
- *Radioactive waste monitoring*
- *Illicit trafficking of radioactive sources and materials monitoring*
- *Radiation monitoring of building materials and products*
- *Nuclear industry*
- *Geological survey*
- *Nuclear medicine*
- *Scientific research*
- *Emergency*

ATOMTEX

INSTRUMENTS AND TECHNOLOGIES FOR NUCLEAR MEASUREMENTS AND RADIATION MONITORING

Specification

Scintillation detectors:
AT6101A ..... NaI(Tl) - ∅63x63 mm
AT6101D ..... NaI(Tl) - ∅63x63 mm

Gamma radiation detection in energy ranges
AT6101A ..... 20 - 1500 keV and 40 - 3000 keV
AT6101D ..... 50 - 3000 keV

Integral non-linearity ..... not more than 1%

Relative energy resolution
on ^{137}Cs ..... not more than 9.5 %

Maximum input statistical load ..... not less than $5 \cdot 10^4$ s^{-1}

Number of channels 512

Continuous operation time
built-in accumulator unit ..... not less than 12 h

Energy scale instability
for continuous operation of 12 h ..... not more than 1.5 %

Intrinsic effective specific activity measurement error
AT6101D ..... not more than ±30 %

NORM effective specific activity measuring range
2-π (surface) ..... 100 - 10^4 Bq/kg
4-π (hole) ..... 50 - 10^4 Bq/kg

Gamma radiation ambient dose equivalent rate
measuring range
AT6101D ..... 0.01 - 100 mSv/h

Operating temperature range .....-20 ÷ +50 °C

Relative air humidity at 35°C 95%

Operation mode
setup time ..... not more than 10 min

Protection class IP54

Radio disturbance
CEI/IEC CISPR 22:1997

Electromagnetic compatibility
CEI/IEC 61000-4-2:1995
IEC 61000-4-3:1995

Weight
AT6101A
(smart probe BDKG-11) ..... 1.9 kg
AT6101D (smart probe BDKG-11
in hermetic enclosure) ..... 4.0 kg
Processing unit ..... 0.8 kg

Dimensions
AT6101A
(smart probe BDKG-11) ..... ∅80x345 mm
AT6101D (smart probe BDKG-11
in hermetic enclosure) ..... ∅121x477 mm
Processing unit ..... 109x220x35 mm

Complete set:
AT6101A: spectrometric gamma radiation smart probe, processing unit, AC adapter, check sample, shoulder strap, Manual, packing case and package.
Kit of accessories to connect to PC and applied software to acquire and process spectra on PC are options and they are supplied on **additional order.**

AT6101D: spectrometric gamma radiation smart probe in hermetic enclosure, processing unit, AC adapter, check sample, shoulder strap, Manual, packing case and package.
Kit to connect to PC and applied software to acquire and process spectra on PC are options and they are supplied on **additional order**.

The spectrometers AT6101A and AT6101D have pattern approval certificates of Republic of Belarus and Russian Federation.

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