

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
- $2\text{-}\pi$ and $4\text{-}\pi$ 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) - Ø63x63 mm
AT6101D NaI(Tl) - Ø63x63 mm

Operating temperature range -20 ÷ +50 °C

Relative air humidity at 35°C 95%

Gamma radiation detection in energy ranges

AT6101A 20 - 1500 keV and 40 - 3000 keV
AT6101D 50 - 3000 keV

Operation mode

setup time not more than 10 min

Integral non-linearity not more than 1%

Protection class IP54

Relative energy resolution

on ¹³⁷Cs not more than 9.5 %

Radio disturbance

CEI/IEC CISPR 22:1997

Maximum input

statistical load not less than 5·10⁴ s⁻¹

Electromagnetic compatibility

CEI/IEC 61000-4-2:1995

Number of channels 512

IEC 61000-4-3:1995

Continuous operation time

built-in accumulator unit not less than 12 h

Weight

Energy scale instability

for continuous operation of 12 h not more than 1.5 %

AT6101A

(smart probe BDKG-11) 1.9 kg

AT6101D (smart probe BDKG-11

in hermetic enclosure) 4.0 kg

Processing unit 0.8 kg

Intrinsic effective specific activity measurement error

AT6101D not more than ±30 %

Dimensions

NORM effective specific activity measuring range

2-π (surface) 100 - 10⁴ Bq/kg

4-π (hole) 50 - 10⁴ Bq/kg

AT6101A

(smart probe BDKG-11) Ø80x345 mm

AT6101D (smart probe BDKG-11

in hermetic enclosure) Ø121x477 mm

Processing unit 109x220x35 mm

Gamma radiation ambient dose equivalent rate

measuring range

AT6101D 0.01 - 100 mSv/h

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.

**5, Gikalo st., 220005 Minsk,
Republic of Belarus**

tel. +375 17 2928142

tel. / fax +375 17 2928142, 2882988

e-mail: info@atomtex.com

<http://www.atomtex.com>



ATOMTEX