MKS-U | Multipurpose Dosimeter-Radiometer

Number U1355-07 in State Register for Measuring Instruments

Hygienic conclusion of the State Sanitary-Hygienic Expertise # B-7.03/140 of October 24, 2000

ТУ У 22362867.005-2000

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Branches of Use

- Army
- State Security Services
- Ministry of Emergencies, Civil Defense
- Nuclear power industry
- Radioactive waste storage sites

Purpose of Use

- Measurement of ambient dose equivalent rate of gamma and X-ray radiation.
- Measurement of ambient dose equivalent of gamma and X-ray radiation.
- Measurement of surface beta-particles flux density.
- Measurement of accumulation time of gamma and X-ray radiation ambient dose equivalent.

Specifications

Measurement of gamma radiation parameters:

- Measurement range of ambient dose equivalent rate by the combined detecting unit	0.1 μSv/h ...10 Sv/h	
- Measurement range of ambient dose equivalent rate by the remote detector	Sv/h	0.01...100
- Measurement range of dose equivalent by the detector built-in the control panel	mSv	0.001...9 999
- Main relative permissible error limit of DER and DE measurement at calibration relative to ^{137}Cs: - for built in and combined detecting units - for remote detector	 ±15% ±15%	
- Energy range of measurement	MeV	0.05...3.0

Specifications (continued)

- Measurement range of ambient dose equivalent accumulation time and accuracy of measurement	1 min...100 h ±1 min per 100 h	
Measurement of beta radiation parameters:		
- Measurement range of surface beta-particles flux density	$1/(cm^2 \cdot min)$	10...200 000
- Energy range of measurement	MeV	0.3...3.0
- Main relative permissible error limit of beta-particles flux density measurement at calibration relative to $^{90}Sr+^{90}Y$	±20%	
- Measurement time intervals	seconds	2...50
- Storage battery life	hours	100
- Operating temperature range (for digital display)	°C	-40...+50 (-40...+95)
- Weight of the kit in packing	kg	8
- Dimensions of the kit in packing	mm	490x255x130

Features

- Automatic setting of measurement intervals and ranges.
- Audio signaling of each detected gamma-quantum or beta-particle.
- Display and control keys backlight if operating in the dark.
- Storage battery (five nickel-cadmium AA size batteries) charging by the built-in charger from:
  - integral heliobattery;
  - 12V automobile battery;
  - 220V/50Hz industrial network by voltage converter.
- Multilevel indication of power supply discharge.
- Option to operate under atmospheric precipitation, dusty conditions and at submerge of the remote gamma radiation detector in the water at 0.5 m depth.
- Measurement of emergency DER levels of gamma radiation by placing the remote detector at up to 30 m distance.
- Analog indicator of radiation intensity.
- Up to 4096 measurement results recording in the nonvolatile memory with further transfer to the computer through infrared port.
- Review of the recorded measurement results on the display.
- Option to operate in the individual protection (rubber gloves).
- Wide operating temperature range (-40...+50 °C).
- Display resistance to the temperature of +95 °C.

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The device includes

- gas-discharge Geiger-Muller counters without return run of counting response;
- silicon beta radiation detector;
- emergency scintillation gamma radiation detector (Csj-scintillator-photodiode).

Complete Delivery Kit

- control panel with non-detachable combined gamma, beta detecting unit;
- heliobattery;
- short telescopic tube for the detecting unit with a clip to be fixed on a belt;
- 12V cable (10m) used for charging from the automobile battery;
- 220/12V adapter;
- nickel-cadmium batteries (5 pcs.; AA size);
- headphones;
- case PELI;
- operating manual;
- logbook;
- emergency detecting unit kit:
  - remote gamma radiation detector with 30 m cable;
  - telescopic tube (5m) with a cable hanger for cable winding;
  - telescopic tube case;
- spare parts;
- exchange infrared port adapter and software (at customer's request).

The kit may be completed at the customer's request.

Special-Purpose Delivery Kit

A special-purpose delivery kit is suggested for the fire fighting services and does not include: emergency detecting unit kit and heliobattery.
The detecting unit is fixed to the housing of the device control panel.
The storage battery is charged with the help of the built-in charger from:
- 12V automobile battery;
- 220V/50Hz industrial network by voltage converter.

Weight of the control panel with the detecting unit — 2.4 kg
Dimensions of the control panel — 160x125x80 mm.