

RADIATION PORTAL MONITORS PM5000KM SERIES

RADIATION CONTROL OF ROAD AND RAIL TRANSPORT AT INDUSTRIAL AND CARGO CHECKPOINTS

Purpose

Radiation Portal Monitors (RPMs) PM5000KM series are highly sensitive fixed-installation systems designed to ensure radiation monitoring of road and rail transport at industrial and cargo stationary checkpoints.

PM5000KM units can be installed both indoors and outdoors.

When radioactive materials are detected in the controlled area or the background value of gamma radiation changes, light and sound alarms are activated, and the corresponding information is displayed and stored on the PC connected to the monitor.

Features

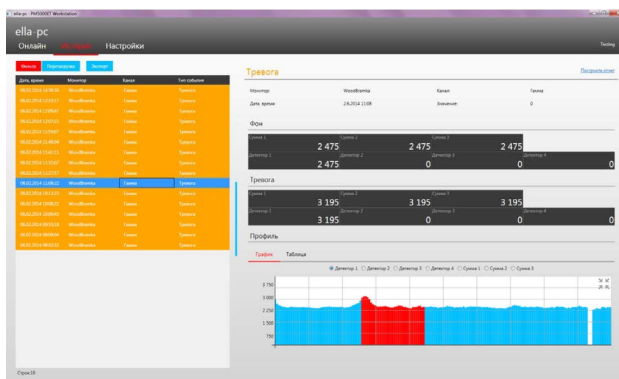
- high sensitivity
- ease of installation
- audible and light alarms and an optional remote signaling unit
- PC connection via the Ethernet port or WiFi
- surveillance system (optional)
- creation of the single network with control from one PC
- round-the-clock and automatic operation mode with the measurements history recording
- suitable for use in difficult climatic conditions

Application

- mining, petrochemical and metallurgical industry
- industrial and cargo stationary customs checkpoints
- scrap metal industry
- radioactive waste disposal and storage sites
- NPPs and nuclear industry enterprises

Monitored objects

- vehicle and cargo tracks
- trains
- luggage and postal items



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Specifications

PM5000KM-01 model corresponds to the category of VITy transport monitors according to GOST P 51635-2000.

PM5000KM-02 model corresponds to the category of IVTy transport monitors according to GOST P 51635-2000.

The monitors detect a batch of contaminated materials, if the gamma radiation MDER value near the surface (minus the natural background value) exceeds 0.2 $\mu\text{Sv/h}$.

The monitors detect local sources if the gamma radiation DER value at a distance of 10 cm exceeds 1 $\mu\text{Sv/h}$.

Model	Location of the detection assemblies	Source speed, km/h, no more than	Control zone*, W × H, m	Minimum detectable amounts of radioactive materials gamma radiation background level – no more than 0.1 $\mu\text{Sv/h}$, false alarm rate – no more than 1 per 1000 passages of controlled objects throughout monitoring area					
				¹³³ Ba, kBq (μCi)	¹³⁷ Cs, kBq (μCi)	⁶⁰ Co, kBq (μCi)	²³⁸ U, g	²³⁵ U, g	²³⁹ Pu, g
PM5000KM-01		15	6 × 3	1350 (36,5)	1470 (39,7)	760 (20,5)	11 300	2 475	20
		15	3 × 3	610 (16,5)	670 (18,1)	350 (9,5)	3 875	665	7,2
		10	3 × 3	500 (13,5)	550 (14,8)	285 (7,7)	2 820	475	5,3
		5	1,5 × 3	135 (3,6)	150 (4,1)	78 (2,1)	345	60	1
		5	1 × 3	80 (2,2)	88 (2,4)	46 (1,2)	175	21	0,5
		10	3 × 3,5*	670* (18,1)	740* (20)	385* (10,4)	4 470*	785*	8,2*
PM5000KM-02		15	6 × 3	315 (8,5)	390 (10,5)	190 (5,1)	1 280	225	2,7
		15	3 × 3	165 (4,5)	200 (5,4)	95 (2,3)	455	85	1,2
		10	3 × 3	135 (3,6)	165 (4,5)	80 (2,2)	345	60	1
		5	1,5 × 3	40 (1,1)	50 (1,4)	24 (0,6)	62	6,1	0,2
		10	3 × 3,5*	215* (5,8)	265* (7,2)	130* (3,5)	675*	130*	1,7*

*The source is shielded with 1 mm thick steel and moves in the of minimum sensitivity zone.

DER measurement range: 0.1 – 30 $\mu\text{Sv/h}$

Energy range of the registered gamma radiation:

from 60 keV to 3.0 MeV

Power: Main supply: 110 (90-132) V AC or 220 (180-264) V AC 50/60Hz. Built-in accumulator battery (12 V DC) with minimum 6 h life (PM5000KM-01) after external power supply failure.

Operation conditions

- temperature from –30 °C up to 50 °C (using the heating option from –50 °C up to 50 °C)
- humidity up to 98% at 40°C
- atmospheric pressure from 84 to 106.7 kPa

Ingress protection: IP65

Design and specifications of the product can be changed without further notice.

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