

RADIATION PORTAL MONITORS PM5000B series

DETECTION OF RADIOACTIVE MATERIALS
IN AUTOMATIC MODE

Purpose

Radiation Portal Monitors (RPMs) PM5000B series are highly sensitive fixed-installation systems designed to automatically detect illicit trafficking of nuclear and other radioactive materials.

Designed to meet ANSI N42.35-2016, IEC 62244 requirements. The monitors correspond to the IEC 61000-6-2-2022, IEC 61000-6-3-2016 and IEC 61326-1-2012 electro compatibility standards.

RPMs have modular design and may have one-pillar or two-pillar configurations, adaptable height and width according to customer requirements. Monitors can be equipped with video monitoring system.

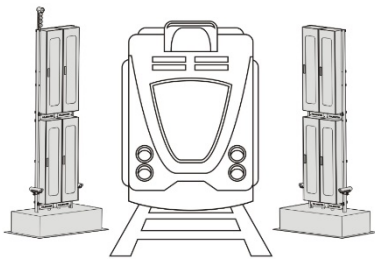
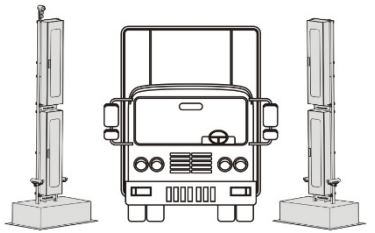
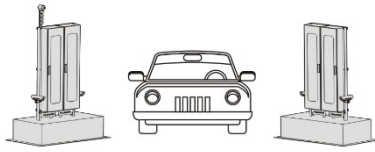
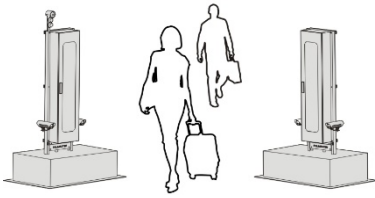
Application

- Airports
- Seaports
- Railway stations
- Scrap metal industry
- Border and customs checkpoints
- NPPs and nuclear industry enterprises
- Nuclear waste disposal and storage sites
- Government offices, banks, post offices

Monitored objects

- Cars
- Trains
- Tracks
- Pedestrians
- Luggage and post












Features

- High sensitivity
- Advanced data processing algorithms
- Modular design
- Easy-to-use
- Audible and light alarms
- Indoor and outdoor installations
- Stainless steel casing of detection assemblies
- Reliable, automatic, 24/7 operation
- PC connection via the Ethernet port
- Surveillance system (optional)
- Traffic lights (optional)
- Operator's Workstation (optional)

Principles and advantages of modular design

- Two types of detection assemblies for
 - gamma radiation
 - neutron radiation
- One-pillar and two-pillar configurations
- Adaptable height and width to accommodate any monitoring area
- Sensitivity is adjustable in compliance with the customer requirements

Standard RPM models

Model	Type of detected radiation	Control zone W × H, m	Speed, km/h, no more than	Location of the detection assemblies	Application
PM5000B-01	Gamma	6.0 × 4.5 6.0 × 4.5	8 20		Cars, Trucks, Trains
PM5000B-05	Gamma	3.0 × 2.0 6.0 × 2.0	5 8		Pedestrians, Luggage, Cars
PM5000B-09	Gamma Neutron	3.0 × 2.0 6.0 × 2.0	5 8		Pedestrians, Luggage, Cars
PM5000B-10	Gamma Neutron	6.0 × 4.5 6.0 × 4.5	8 20		Cars, Trucks, Trains
PM5000B-13	Neutron	3.0 × 2.0 6.0 × 2.0	5 8		Pedestrians, Luggage, Cars
PM5000B-14	Neutron	3.0 × 4.5 6.0 × 4.5 6.0 × 4.5	5 8 20		Cars, Trucks, Trains
PM5000B-16	Gamma	6.0 × 4.5 6.0 × 4.5	8 20		Cars, Trucks, Trains

Functional system components



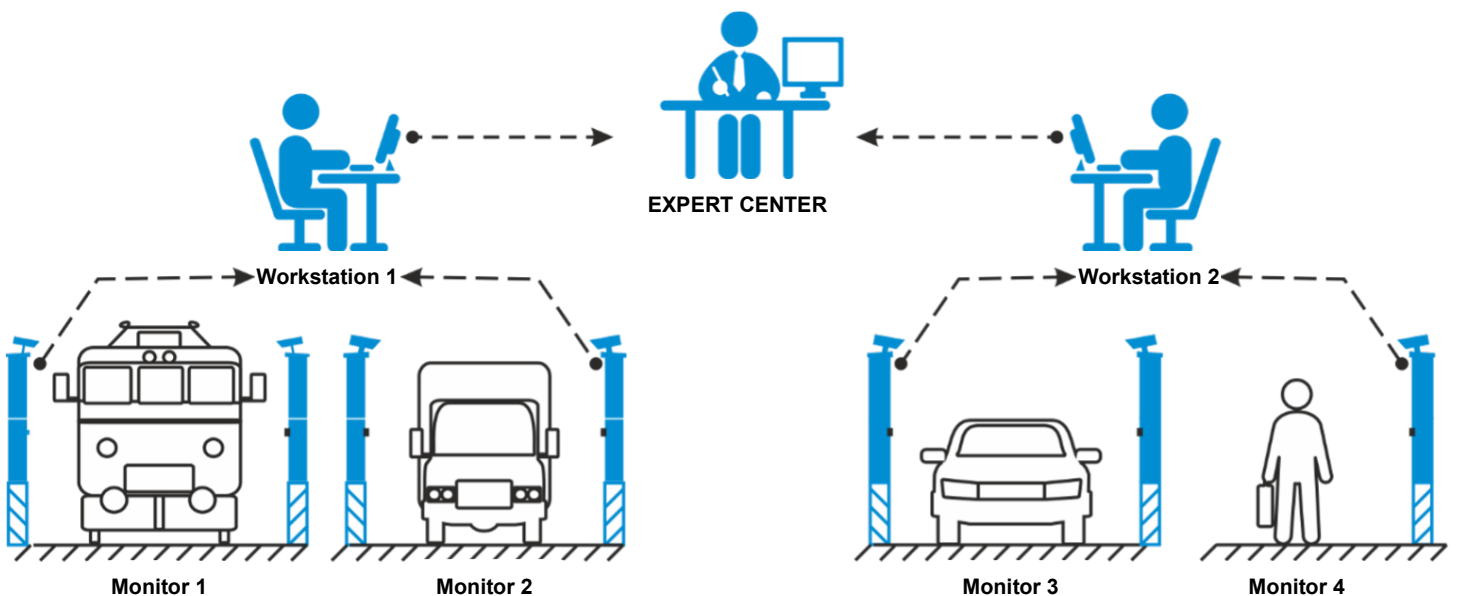
Workstation with a PC

- Parameters and operation modes can be remotely monitored
- Readings and data indications are stored in the RPM non-volatile memory

Software

- Remote monitoring of portal monitor status
- Automatic reports
- Identification of alarm-causing object
- Data transfer to an Expert Center

RPMs network integration



RADIATION PORTAL MONITORS PM5000B



Specifications

Model	Source speed, km/h, no more than	Control zone*, W × H, m	Minimum detectable amounts of radioactive materials									
			²⁴¹ Am, kBq (μCi)	¹³⁷ Cs, kBq (μCi)	⁶⁰ Co, kBq (μCi)	⁵⁷ Co, kBq (μCi)	¹³³ Ba, kBq (μCi)	²³⁸ U, g	²³⁵ U, g	²³⁹ Pu, g	²³⁹ Pu, g (4 cm Pb)	²⁵² Cf, neutron/s
PM5000B-01	8	6.0 × 4.5	1500 (41)	160 (4.3)	100 (2.7)	200 (5.4)	100 (2.7)	1300	80	2.3	–	–
	20	6.0 × 4.5	2300 (62)	240 (6.5)	150 (4.1)	300 (8.1)	150 (4.1)	1900	120	3.4	–	–
PM5000B-05	5	3.0 × 2.0	620 (17)	65 (1.8)	40 (1.1)	85 (2.3)	40 (1.1)	460	32	0.9	–	–
	8	6.0 × 2.0	2150 (58)	230 (6.2)	145 (3.9)	290 (7.8)	145 (3.9)	1800	110	3.2	–	–
PM5000B-09	5	3.0 × 2.0	620 (17)	65 (1.8)	40 (1.1)	85 (2.3)	40 (1.1)	460	32	0.9	110	6500
	8	6.0 × 2.0	2150 (58)	230 (6.2)	145 (3.9)	290 (7.8)	145 (3.9)	1800	110	3.2	340	20000
PM5000B-10	8	6.0 × 4.5	1500 (41)	160 (4.3)	100 (2.7)	200 (5.4)	100 (2.7)	1300	80	2.3	240	14000
	20	6.0 × 4.5	2300 (62)	240 (6.5)	150 (4.1)	300 (8.1)	150 (4.1)	1900	120	3.4	400	24000
PM5000B-13	5	3.0 × 2.0	–	–	–	–	–	–	–	–	110	6500
	8	6.0 × 2.0	–	–	–	–	–	–	–	–	340	20000
PM5000B-14	5	3.0 × 4.5	–	–	–	–	–	–	–	–	75	4500
	8	6.0 × 4.5	–	–	–	–	–	–	–	–	240	14000
	20	6.0 × 4.5	–	–	–	–	–	–	–	–	400	24000
PM5000B-16	8	6.0 × 4.5	1150 (31)	125 (3.4)	75 (2.0)	155 (4.2)	75 (2.0)	1000	62	1.9	–	–
	20	6.0 × 4.5	1800 (49)	185 (5.0)	115 (3.1)	230 (6.2)	115 (3.1)	1500	92	2.8	–	–

* in the following conditions: gamma radiation background level – no more than 0.1 μSv/h, false alarm rate – no more than 1 per 1000 passages of controlled objects throughout monitoring area

Energy range of the registered gamma radiation:
from 20 keV to 3.0 MeV

Operating temperatures: from –30 °C to 50 °C

Ingress protection: IP65

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 8 hours life after external power supply failure

Power consumption:

No more than 120 V·A

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

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