



**POLIMASTER®**



Innovating Radiation Detection Technologies Since 1992

# RADIATION PORTAL MONITORS **PM5000B Series**

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



## Applications

- Airports
- Seaports
- Railway stations
- Customs and border check points
- Nuclear plants and other facilities of the nuclear industry
- Nuclear waste disposal and storage sites
- Scrap metal industry
- Governmental offices, banks and post offices

## Monitored objects

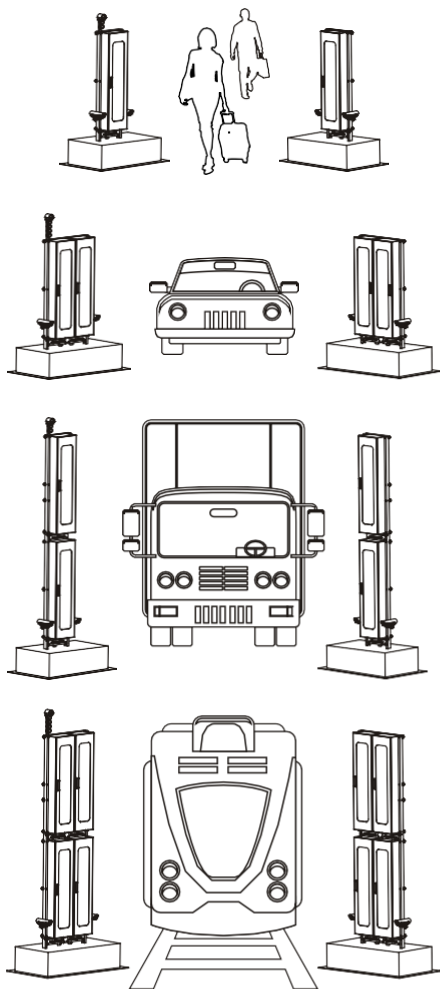
- Trains
- Trucks
- Cars
- Pedestrians
- Post and luggage



**DETECTION**



**ALARM**



## Features

- High sensitivity
- Advanced data processing algorithms
- Modular design
- Easy-to-use
- Audible and light alarms
- Indoor and outdoor installations
- Reliable, automatic, 24/7 operation
- PC connection through the Ethernet port
- Video monitoring system (option)
- Integration into a nuclear protection network controlled by a central PC (option) with further integration into higher level networks controlled by an Expert Center (option)

## 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 adjusted in compliance with the customer requirements

## Standard RPM models

	Type of registered radiation	Parameters of the control zone W x H, m	Speed, km/h, no more than	Location of the detection assemblies	Application
PM5000B-01	Gamma	3.0x4.5 6.0x4.5	5 8	■ ■ ■ ■	Pedestrians, Luggage, Cars
PM5000B-05	Gamma	3.0x2 6.0x2	5 8	■ ■	Pedestrians, Luggage, Cars
PM5000B-09	Gamma Neutron	3.0x2 6.0x2	5 8	■ ■ ■ ■	Pedestrians, Luggage, Cars
PM5000B-10	Gamma Neutron	6.0x4.5 6.0x4.5	8 20	■ ■ ■ ■	Cars, Trucks, Trains
PM5000B-13	Neutron	3.0x2 6.0x2	5 8	■ ■	Pedestrians, Luggage, Cars
PM5000B-14	Neutron	3.0x4.5 6.0x4.5 6.0x4.5	5 8 20	■ ■ ■ ■	Pedestrians, Luggage, Cars, Trucks, Trains
PM5000B-16	Gamma	6.0x4.5 6.0x4.5	8 20	■ ■ ■ ■	Cars, Trucks, Trains



## Functional system components

### VIDEO SURVEILLANCE

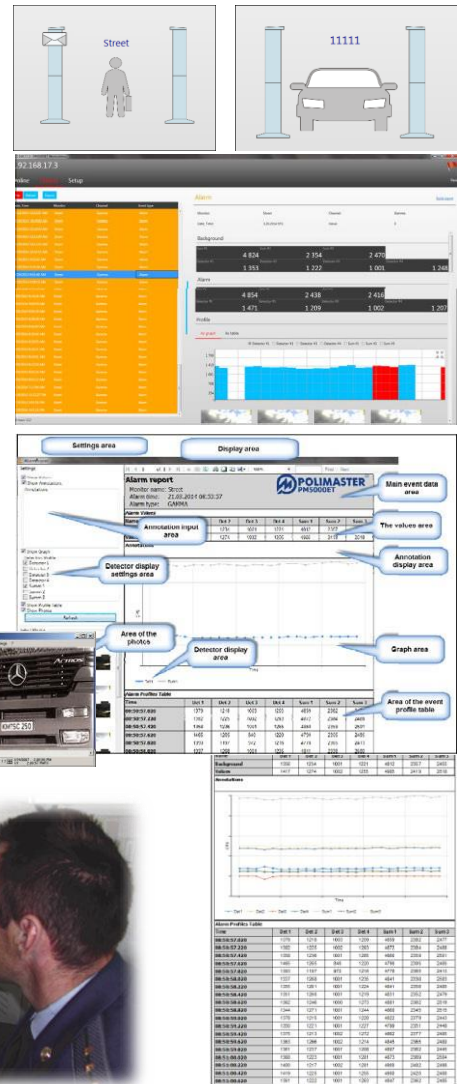
Video recording of alarm-causing objects in the detection mode

### DETECTION ASSEMBLIES

Detects nuclear and radioactive materials

### ALARM ASSEMBLY

Light and sound alarms when nuclear and/or radioactive materials are detected



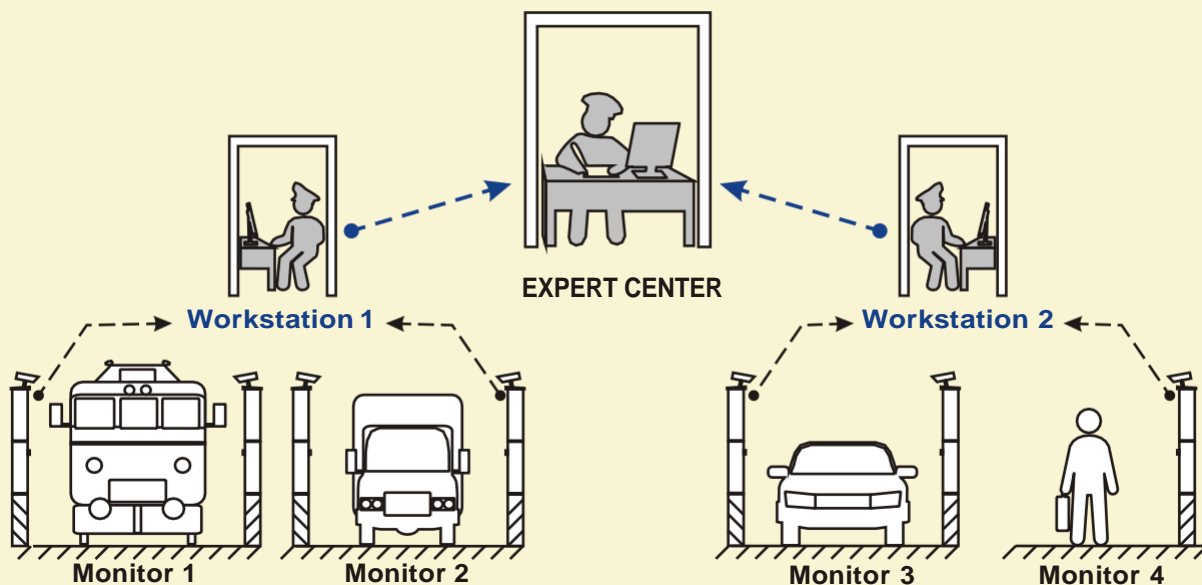
### Workstation with PC

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

### Software

- Remote monitoring of portal monitor status
- Automatic reports
- Identification of alarm-causing objects
- Capable of transferring data to an Expert Center

## INTEGRATING INTO A NETWORK



# RADIATION PORTAL MONITORS

## PM5000B SERIES

**False alarm rate**  
is set by the user

**Power**  
85-264VAC 50/60Hz or battery (12V) with  
minimum 8 hours life after external power supply failure

**Operating temperatures**  
-30 ... +50 °C

**Power consumption**  
Not more than 60VA

### TECHNICAL SPECIFICATIONS

Model	Source velocity, km/h, not more	Search area* W x H, m	Minimum detectable amounts of nuclear and radioactive materials							
			<sup>241</sup> Am, MBq(μCi)	<sup>137</sup> Cs, MBq(μCi)	<sup>60</sup> Co, MBq(μCi)	<sup>238</sup> U, g	<sup>235</sup> U, g	<sup>239</sup> Pu, g	<sup>239</sup> Pu, g (4cm Pb)	<sup>252</sup> Cf, neutron/s
PM5000B-01	5	3.0x4.5	1.29 (35)	0.21 (5.7)	0.12 (3.2)	1300	80	2.3		
	8	6.0x4.5	1.9 (51)	0.31 (8.4)	0.17 (4.6)	1900	120	3.4		
PM5000B-05	5	3.0x2	0.46 (12)	0.08 (2.2)	0.045 (1.2)	460	32	0.9		
	8	6.0x2	1.8 (49)	0.29 (7.8)	0.16 (4.3)	1800	110	3.2		
PM5000B-09	5	3.0x2	0.46 (12)	0.08 (2.2)	0.045 (1.2)	460	32	0.9	85	5000
	8	6.0x2	1.8 (49)	0.29 (7.8)	0.16 (4.3)	1800	110	3.2	250	15000
PM5000B-10	8	6.0x4.5	1.29 (35)	0.21 (5.7)	0.12 (3.2)	1300	80	2.3	160	9300
	20	6.0x4.5	1.9 (51)	0.31 (8.4)	0.17 (4.6)	1900	120	3.4	280	17000
PM5000B-13	5	3.0x2							85	5000
	8	6.0x2							250	15000
PM5000B-14	5	3.0x4.5							60	3300
	8	6.0x4.5							160	9300
	20	6.0x4.5							280	17000
PM5000B-16	8	6.0x4.5	1.0 (27)	0.16 (4.4)	0.09 (2.5)	1000	62	1.9		
	20	6.0x4.5	1.5 (39)	0.24 (6.5)	0.13 (3.5)	1500	92	2.8		

\* for natural gamma and neutron radiation background level and not more than 1 false alarm per 10000 passages of controlled objects throughout monitor ing area.

Design and specifications can be changed without further notice.