RADIATION PORTAL MONITOR

PoliGate™ Vehicle

PoliGate™ Vehicle series of Radiation Portal Monitors (RPMs) is a high-sensitive fixed system designed for permanent installation and providing continuous radiation detection and monitoring of vehicles, cargo containers, people, or packages. RPMs have a modular design and are available in gamma or gamma-neutron configurations, adaptable height and width according to customer requirements.
PoliGate™ Vehicle RPM is an essential tool for safeguarding against the potential threat of nuclear materials entering secure areas and can be used for screening trains, trucks, vehicles, cargo containers, luggage and people. The RPM is easy to operate and maintain, requires minimal training and is supplied with user-friendly software that provides real-time data and alarms.

Applications

- Customs and border control
- Waste management sites
- Airports and seaports
- Public events security
- Nuclear power plants
- Police and security
- Industrial facilities
- Scrap processing
- Railway

Features

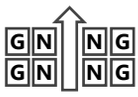
- Control zone up to 6 m × 4.5 m (W×H)
- No vehicle stop is required for measurement
- Lead shielding for natural background rejection
- Wide gamma energy range from 20 keV to 3 MeV
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

γ n IP65

PoliGate™ Vehicle
RADIATION PORTAL MONITORS

POLIMASTER®
Radiation Detection Technologies

SPECIFICATIONS

Model	Speed, km/h	Detection zone W x H, m	Layout of detection units	Minimal detectable amounts of nuclear and 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
PoliGate™ Vehicle G2	5	3 × 2		620 (17)	65 (1.8)	40 (1.1)	85 (2.3)	40 (1.1)	460	32	0.9	-	-
	8	6 × 2		2150 (58)	230 (6.2)	145 (3.9)	290 (7.8)	145 (3.9)	1800	110	3.2		
PoliGate™ Vehicle G4	8	6 × 4.5		1500 (41)	160 (4.3)	100 (2.7)	200 (5.4)	100 (2.7)	1300	80	2.3	-	-
	20	6 × 4.5		2300 (62)	240 (6.5)	150 (4.1)	300 (8.1)	150 (4.1)	1900	120	3.4		
PoliGate™ Vehicle G4N4	8	6 × 4.5		1500 (41)	160 (4.3)	100 (2.7)	200 (5.4)	100 (2.7)	1300	80	2.3	240	14000
	20	6 × 4.5		2300 (62)	240 (6.5)	150 (4.1)	300 (8.1)	150 (4.1)	1900	120	3.4	400	24000

*If gamma radiation background is < 0.1 µSv/h, false alarm rate is < 1/1000 passages

Detectors	Gamma: plastic scintillators (PVT), 11 l Neutron: 10B/ZnS(Ag)
Energy range	20 keV to 3 MeV
False alarm rate	< 1/1000 passages
Communication	Ethernet
Ingress protection	IP65
Weight (detection block)	120 kg (gamma detection block) 130 kg (neutron detection block)
Dimension (detection block)	1645×448×250 mm (H×L×W)
Power supply	110 (90-132) V AC or 220 (180-264) V AC, 47-63 Hz; 12 V built-in rechargeable battery (> 8 h of operation)
Standards compliance	IEC 62244:2019 (partially), ANSI N42.35-2016 (partially), IEC 61000-6-2:2016, IEC 61000-6-3:2011, IEC 61326-1:2012, IEC 61010-1:2010, EN 55022:2010 (class B)
Operating conditions	ambient temperature: –30 °C to 50 °C atmospheric pressure: 84 kPa to 106.7 kPa relative humidity: up to 98 % at 40 °C

PoliGate™ Vehicle G2
Gamma-only model with 2 gamma detection blocks

PoliGate™ Vehicle G4
Gamma-only model with 4 gamma detection blocks

PoliGate™ Vehicle G4N4
Gamma-neutron model with
4 gamma and 4 neutron detection blocks

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