



**POLIMASTER**<sup>®</sup>  
Radiation Detection Technologies

peo

DETECTION



## RADIATION PORTAL MONITOR

# PoliGate<sup>™</sup> Vehicle

**PoliGate<sup>™</sup> 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<sup>™</sup> 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



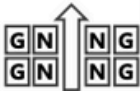
### Features

- 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



[www.polimaster.com](http://www.polimaster.com)

### SPECIFICATIONS

| Model                                 | Speed,<br>km/h | Detection<br>zone<br>W x H, m | Layout of<br>detection<br>units   | Minimal detectable amounts of nuclear and radioactive materials* |                                     |                                    |                                    |                                     |                        |                        |                         |                                   |                                 |
|---------------------------------------|----------------|-------------------------------|---|--|-------------------------------------|------------------------------------|------------------------------------|-------------------------------------|------------------------|------------------------|-------------------------|-----------------------------------|---------------------------------|
|                                       |                |                               |   | <sup>241</sup> Am,<br>kBq,<br>(μCi)                              | <sup>137</sup> Cs,<br>kBq,<br>(μCi) | <sup>60</sup> Co,<br>kBq,<br>(μCi) | <sup>57</sup> Co,<br>kBq,<br>(μCi) | <sup>133</sup> Ba,<br>kBq,<br>(μCi) | <sup>238</sup> U,<br>g | <sup>235</sup> U,<br>g | <sup>239</sup> Pu,<br>g | <sup>239</sup> Pu, g<br>(4 cm Pb) | <sup>252</sup> Cf,<br>neutron/s |
| <b>PoliGate™<br/>Vehicle<br/>G2</b>   | 5              | 3 × 2                         |  | 620<br>(17)  | 65<br>(1.8)                         | 40<br>(1.1)                        | 85<br>(2.3)                        | 40<br>(1.1)                         | 460                    | 32                     | 0.9                     | -                                 | -                               |
|                                       | 8              | 6 × 2                         |   | 2150<br>(58)   | 230<br>(6.2)                        | 145<br>(3.9)                       | 290<br>(7.8)                       | 145<br>(3.9)                        | 1800                   | 110                    | 3.2                     | -                                 | -                               |
| <b>PoliGate™<br/>Vehicle<br/>G4</b>   | 8              | 6 × 4.5                       |  | 1500<br>(41)   | 160<br>(4.3)                        | 100<br>(2.7)                       | 200<br>(5.4)                       | 100<br>(2.7)                        | 1300                   | 80                     | 2.3                     | -                                 | -                               |
|                                       | 20             | 6 × 4.5                       |   | 2300<br>(62)   | 240<br>(6.5)                        | 150<br>(4.1)                       | 300<br>(8.1)                       | 150<br>(4.1)                        | 1900                   | 120                    | 3.4                     | -                                 | -                               |
| <b>PoliGate™<br/>Vehicle<br/>G4N4</b> | 8              | 6 × 4.5                       |  | 1500<br>(41)   | 160<br>(4.3)                        | 100<br>(2.7)                       | 200<br>(5.4)                       | 100<br>(2.7)                        | 1300                   | 80                     | 2.3                     | 240                               | 14000                           |
|                                       | 20             | 6 × 4.5                       |   | 2300<br>(62)   | 240<br>(6.5)                        | 150<br>(4.1)                       | 300<br>(8.1)                       | 150<br>(4.1)                        | 1900                   | 120                    | 3.4                     | 400                               | 24000                           |

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

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