



**POLIMASTER**<sup>®</sup>



Innovating Radiation Detection Technologies Since 1992

## PERSONAL RADIATION DETECTORS

# PM1401MA/PM1401GNA GAMMA/GAMMA-NEUTRON



These detectors are highly efficient first responders' "pocket type" radiation detection instruments.

For Professionals in Law Enforcement and Homeland Security.

PM1401MA/PM1401GNA meets requirements of ITRAP/IAEA, ANSI N42.32 standard.



PM1401MA/PM1401GNA are the most sensitive gamma/gamma-neutron monitors, which are capable to detect the smallest amounts of radioactive and nuclear materials including the weapon ones.

The use of the PM1401MA/PM1401GNA may prevent inland illicit trafficking of radioactive sources and prevent terrorist actions with radioactive and nuclear materials.

### Application

- First responders
- Customs and Border Patrol
- Police
- Emergency teams
- Law enforcement
- HazMat teams
- Security guards

### Versions

- PM1401MA-gamma
- PM1401GNA-gamma-neutron
- Options: radionuclide identification using Bluetooth communication with external Pocket PC or smartphone with software PolIdentify™

### Features

- Fast response
- Easy two-buttons operation
- Gamma dose rate indication with reference to background
- Neutron count rate indication with reference to the neutron background
- Non-volatile memory for Storage of operation history
- PC communication via IR interface
- Waterproof, shock-resistant aluminium case
- Small size and light weight
- Optional extension pole

**ALARM**

**LOCATION**

**MEASUREMENT**



IrDA



# PERSONAL RADIATION DETECTORS PM1401MA/PM1401GNA GAMMA/GAMMA-NEUTRON SPECIFICATIONS

	PM1401MA	PM1401GNA
<b>Detector</b> - gamma - neutron	<b>Cs(Ti)</b> -	<b>CsI(Tl)</b> <b>He-3 counter</b>
<b>Sensitivity:</b> - gamma for <sup>137</sup> Cs, no less - neutron for Pu-α-Be, no less  - for thermal neutron, no less	<b>100 cps/(μSv/h)</b> - -	<b>100 cps/(μSv/h)</b> <b>0.1 counts cm<sup>2</sup> / n</b> <b>1.0 counts cm<sup>2</sup> / n</b> (with moderator) <b>7 counts cm<sup>2</sup> / n</b>
<b>Energy range</b> - for gamma - for neutron	<b>0.06 - 3 MeV</b>	<b>0.033 - 3 MeV</b> <b>0.025 eV - 14 MeV</b>
<b>Time of measurement</b>	<b>0.25 s</b>	
<b>Range of n coefficient</b> (number of mean square deviations of current background) <b>Step</b>	<b>from 1 to 9.9</b> <b>0.1</b>	
<b>Detection of gamma radiation sources</b> (Ba-133) at a distance of 0.2 m, velocity of 0.5 m/s	<b>55 kBq</b>	
<b>Detection of</b> - standard sample Pu <sup>239</sup> - standard sample U <sup>235</sup> (at distance of 0.2 m, velocity of 0.5 m/s, background < 0.25 μSv/h)	<b>0.3 g</b> <b>10 g</b>	
<b>Measurement range</b> of dose equivalent rate (DER) of photon radiation H*(10)	<b>0.05 - 40 μSv/h</b>	<b>0.01 - 70 μSv/h</b>
<b>Accuracy of DER registration</b> to <sup>137</sup> Cs in collimated radiation	<b>±(20 + 1/H)%,</b> <b>H - DER value in μSv/h</b>	<b>±30%</b>
<b>Count time:</b> - in background mode - in search mode	<b>36 s</b> <b>2 s</b>	
<b>Meet requirements of ITRAP Program:</b> detection with no less than 99% probability within 3 s for Cs-137, Am-241, Co-60, with the dose rate (at background < 0.2 μSv/h, false alarm < 1per 10 hour)	<b>1 μSv/h</b>	
<b>Additional functions</b>	<b>PC communication mode</b>	
<b>Drop test on concrete floor</b>	<b>0.7 m</b>	
<b>Power supply</b>	<b>One AA battery</b>	
<b>Battery lifetime</b>	<b>1000 h</b>	
<b>Battery discharge warning</b>	<b>indication on LCD</b>	
<b>Operating conditions:</b> - temperature range - relative humidity (at 35° C)	<b>- 30 ... +50° C</b> <b>up to 98%</b>	
<b>Protection degree of case</b>	<b>IP65</b>	
<b>Dimensions</b>	<b>57 x 110 x 32 mm</b>	<b>57 x 183 x 34 mm</b>
<b>Weight</b>	<b>270 g</b>	<b>398 g</b>

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

**ITRAP/IAEA,**  
**ANSI N42.32, ANSI N42.33 (1)**



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