



POLON-IZOT

Contamination Monitoring System - Radiometric Gateway

The PI-MSKA series of Radiation Monitoring Systems are radiometric gate-based devices. It is designed to detect very low gamma and neutron emissions.

The system is based on the guidelines of EN 62022 for the permanent installation of monitors for the control and detection of gamma radiation from emitters contained in recyclable and non-recyclable materials transported by vehicles, as well as on ANSI N42.35 - American National Standard for Evaluation and Performance of monitors for the detection of radiation generated by materials transported by railway vehicles, cars, as well as other means of transport.

The system avoids costly radioactive contamination of areas: landfills, scrap metal, rubbish, equipment, workplaces - steel mills, products and personnel by continuously monitoring selected areas, e.g. vehicle gates, railways, pedestrian and vehicular traffic crossings. The system itself is safe, generating no ionising radiation. Highly sensitive sensors in combination with a computer-based CPU control unit make it possible to classify PI-MSKA systems as top-of-the-range.



PI-MSKA system with two detectors placed opposite each other

The system includes:

- Innovative design with various detectors;
- A detection unit containing between 1 and 16 detectors;
- CPU control unit with touch panel;
- Vehicle presence sensor in the monitored area;
- Sensors to measure vehicle speed through the monitored area (optional);
- Built-in automatic system validation (**patent pending**) (optional),
- Emergency power supply.

Features:

- Statistical analysis of alarms and background measurements;
- Information about the location of the detected source on the transported vehicle;
- Online and offline monitoring;
- Measurement of the speed of vehicles in the monitored area (optional);
- Automatic system verification and calibration (optional);
- On-line determination of the detection criterion with a variable background (**new**);
- Archiving of measurements and alarms;
- Alarm notifications via the Internet and GSM;
- Printed reporting (optional);
- Real-time measurements;
- Eliminate the effect of variable background on source detection.



PI-MSKA rail system with overhead detector and two detectors placed opposite each other



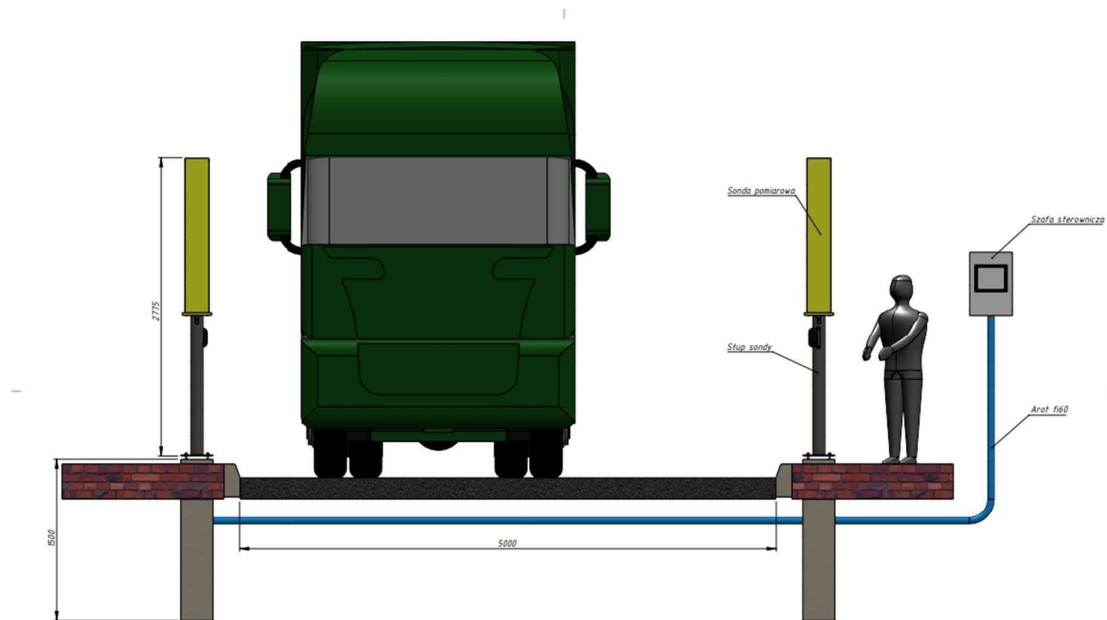
PI-MSKA system mounted above belt conveyors

Typical applications for industries:



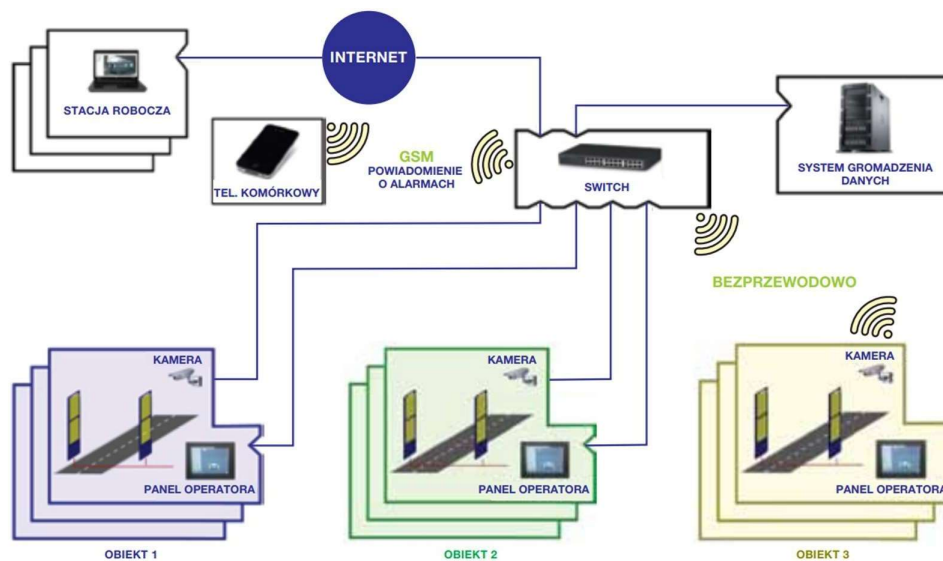
Additional elements:

- video recording of vehicles;
- automatic number plate recognition;
- geometric quantitative measurements of vehicles;
- radio communication in the unlicensed band.



Visualisation of the passage of the vehicle through the monitoring system

Remote monitoring of Stationary Radiation Monitors installed at one or more sites:



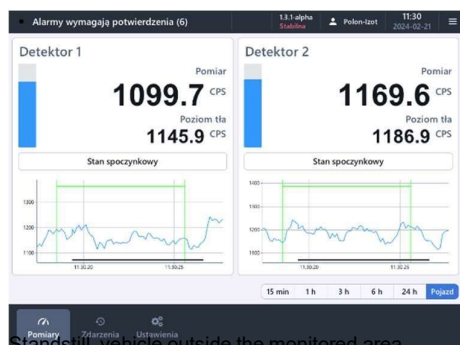


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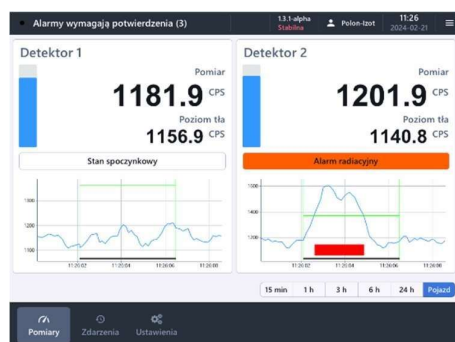
Benefits of the system:

- Convenient, modular installation;
- Can operate in extreme temperatures (-35 °C to + 50 °C);
- Detection of trace amounts (well below natural background) of gamma and/or neutron radiation, graphical and digital plot for each detector including conversion to:
 1. $\mu\text{Gy} / \text{h}$ for gamma radiation (optional),
 2. $\text{n} / \text{s} / \text{cm}^2$ for neutron radiation (optional);
- Event archiving;
- Two-way remote communication via radio or cable;
- Measurement of the speed of vehicles through the monitored zone.

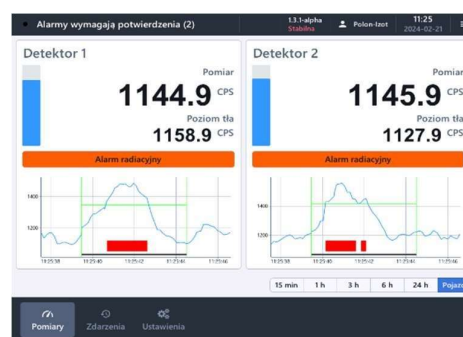
Examples of software screenshots



Standstill, vehicle outside the monitored area,
without source detection



Detection on detector 2
Location from front 1/3rd closer to detector 2



, Detector 1 with lowered background, Detector 2
without lowered background, Central location

Alarm	Wykryty	Wydarzenie	Wydarzenie	Wydarzenie	Wydarzenie
ALARM		Alarm radiacyjny: Detektor 1	13:11:57	13:12:08	
ALARM		Alarm radiacyjny: Detektor 2	13:11:57	13:12:08	
INFO	✓	Pojazd w bramie	13:11:53	13:12:08	
ALARM		Alarm radiacyjny: Detektor 1	13:11:26	13:11:44	
ALARM		Alarm radiacyjny: Detektor 2	13:11:23	13:11:44	
INFO	✓	Pojazd w bramie	13:11:21	13:11:43	
ALARM		Alarm radiacyjny: Detektor 1	13:10:24	13:10:36	
ALARM		Alarm radiacyjny: Detektor 2	13:10:22	13:10:36	
INFO	✓	Pojazd w bramie	13:10:20	13:10:36	
ALARM		Alarm radiacyjny: Detektor 1	13:09:10	13:09:24	

Alarm memory window for each detector



POLON-IZOT is a Polish manufacturer of measurement equipment for laboratories and industry. We are a continuation of the activities of the world-famous company POLON Zjednoczone Zakłady Urządzeń Jądrowych, founded in 1956 and operating as Biuro Urządzeń Techniki Jądrowej. We can therefore boast over 60 years of technical heritage.

Our mission is to create our own advanced technical solutions for both online and at-line measurement equipment or typical laboratory products.

We are prepared to manufacture measuring and control equipment to individual orders.

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