



RADIATION PORTAL MONITOR YANTAR-PB

FIXED-SITE SYSTEM FOR DETECTION OF FISSILE AND RADIOACTIVE MATERIALS IN BAGGAGE AND MAILED ITEMS

INTENDED USE

Automatic detection of gamma and neutron radiation sources transported through the search area on baggage and mail conveyor belts.

APPLICATION

The Yantar-PB radiation portal monitor was specially designed for radiation monitoring of intense baggage flows and is a primary tool for radiation monitoring of baggage and mailed items at the Russian customs checkpoints in airports and post offices.

KEY FEATURES

- Operating mode - continuous, automatic
- Sound and visual alarms
- Settable thresholds for each detection channel
- Possibilities of expansion and connection of external devices
- Generation of "dry contact" in case of an alarm event
- Automatic registration of events in a non-volatile archive
- Storage and output of archive data to external devices (when connected)
- Embedded automatic selftest system
- Access to the system parameters via RS-485 interface (optional Ethernet)
- Generation of video information on the target object (when video surveillance sets are connected)
- Service life is 12 years

DESIGN

Yantar-PB is designed as a detecting module and a control cabinet mounted on a frame. The detecting module includes gamma and neutron radiation detectors. The control cabinet is equipped with visual and sound alarm devices.

Lead shields for the gamma detectors increase efficiency of gamma radiation detection.

The occupancy sensor is mounted on the frame or the sides of the conveyor belt and indicates when the search area is occupied by an object. The search area height is defined by the customer in the range from 0.7 to 1.5 m taking into account the manufacturer's recommendations.

The RPM transfers data to the control panel or a PC with the application specific software installed.

Possibility of integration with the onsite baggage handling system facilitates precise detection of suspicious objects, significantly decreases response time and keeps interference in the baggage handling system operation to a minimum.





YANTAR-PB

SPECIFICATIONS

Detection channels	gamma and neutron
Gamma detectors	plastic scintillators
Neutron detectors	^3He counters
Detection thresholds (detection with probability of no less than 0.5 at a confidence level of 0.95) for a search area height of 0.7 m and object speed of up to 5 km/h	34 kBq (^{133}Ba) 34 kBq (^{137}Cs) 17 kBq (^{60}Co) 4700 neutron/s (^{252}Cf)
False alarm rate	0.001
Ingress protection	IP54
Environmental	-50 to +50 °C, 95 %
Dimensions	(2445×1922×600) mm
Weight, max	238 kg
Power supply	(85-265) V, (47-63) Hz, max 35 V·A
Run time on the built-in batteries, min	10 hours
Installation place	indoor
Objects	baggage, mailed items

CERTIFICATION

- Registered in the State Register of Measuring Instruments under No 16756-10
- Complies with the Customs Union Technical Requirements "Safety of Low Voltage Equipment" (CU TR 004/2011) and "Electromagnetic Compatibility of Technical Means" (CU TR 020/2011)

By 2022, over 8,000 Yantar radiation monitors of various modifications have been produced and put into operation.

