



RADIATION PORTAL MONITOR YANTAR-2SN

FIXED-SITE SYSTEM FOR DETECTION OF FISSILE AND RADIOACTIVE MATERIALS IN VEHICLES

INTENDED USE

Automatic detection of gamma and neutron radiation sources in cargoes carried by vehicles through the search area.

APPLICATION

The Yantar-2SN radiation portal monitors have general purpose application and are used to construct radiation monitoring systems at sites of various types providing required levels of detection of fissile and radioactive materials in accordance with the customer's requirements to the effective search area, object geometry and speed.

DESIGN

Yantar-2SN consists of two pillars mounted opposite each other along the search area boundaries. The pillars contain gamma and neutron detectors and electronics units. The side panels of the pillars have light and sound alarm devices.

Lead shields used for gamma detectors serve to enhance gamma detection efficiency.

Infrared occupancy sensors ensure reliable detection of vehicles in the search area.

The pillars, detectors and electronic units are climatically protected well enough to withstand harsh environments.

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

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





YANTAR-2SN

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 width of 6 m and speed of up to 15 km/h	420 kBq (^{133}Ba) 390 kBq (^{137}Cs) 190 kBq (^{60}Co) 30,000 neutron/s (^{252}Cf)
False alarm rate	0.001
Ingress protection	IP54
Environmental	-50 to +50 °C, 95 %
Dimensions	(2018×350×274) mm (1 pillar)
Weight, max	80 kg (1 pillar)
Power supply	(187-242) V, (50±1) Hz, max 50 V·A
Run time on the built-in batteries, min	10 hours
Installation place	indoor, outdoor
Objects	vehicles

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 8000 Yantar radiation monitors of various modifications have been produced and put into operation.