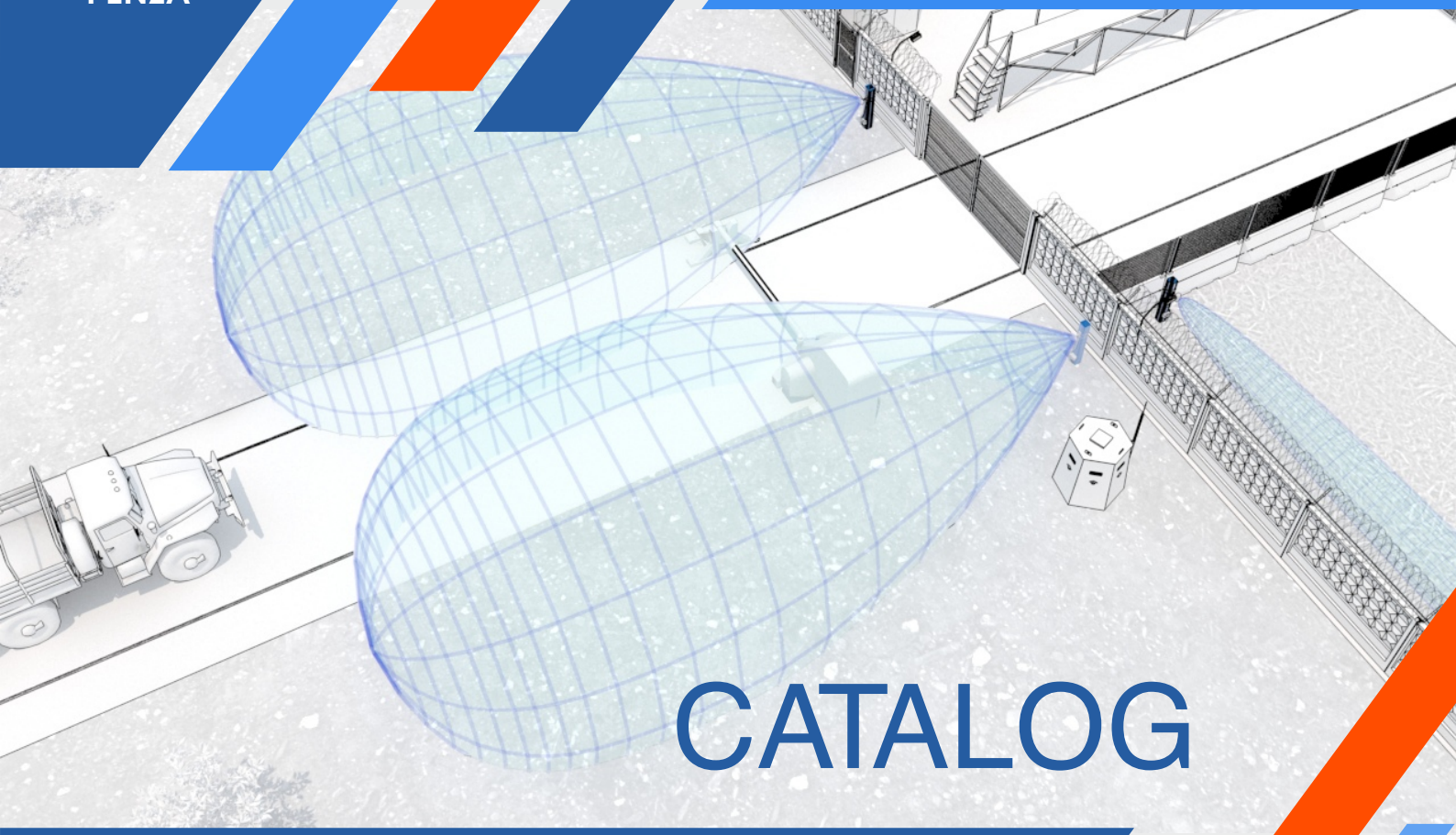
PENZA

Umirs

www.umirs.ru



CATALOG

SECURITY TECHNOLOGY AND FACILITIES

Detection and neutralization of the UAV
Extended perimeters
Territories and water areas
Buildings and premises

1994 - 2019 25 years

Dear coleagues!

Dear colleagues!

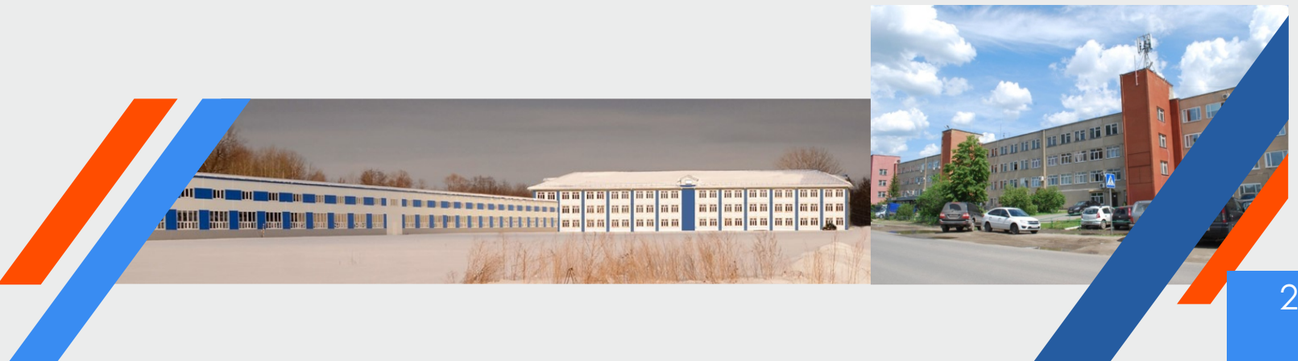
Thank you for your interest in the company "Umirs", our services and products.

Our company has been successfully working at the market of security facilities for 25 years. The activities of the company "Umirs" is aimed at solving the problems of security of open areas, extended perimeters, premises and buildings. For detection, trajectory tracking and neutralization of the UAV the radar means of protection series “Radescan” were developed. "Radescan-Antidron" is successfully used to protect various objects from low-flying, small-sized UAVs.

Our priority is to create high-quality products that meet actual needs of the market. The “Yumirs” company has high scientific and production potential, rich practical experience and uses modern technologies. All these allow us to develop and serially produce the equipment that has no parallel in the world.

Our products effectively solve specific problems of the various objects perimeter security. The company has a certified quality management system in accordance with the international standard ISO-9001, which provide control of the products and services quality.

Now the production program includes more than sixty products. The company "Umirs" focuses on continuous improvement of manufacture technologies and the product quality. The main goal of such improvement is to achieve maximum production efficiency.



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Complex of engineering and technical means of perimeter protection, territories, water areas, as well as detection and neutralization of UAV **Murena-KS** 30
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RADESCAN
AntiDron

EAC certified product

The complex is intended for detection of moving low-flying unmanned aerial vehicles (UAVs) in coverage sector, determination of flight path parameters of detected objects in real-time mode, automatic «tracking» of selected target, transfer of target information to the operator's automated workstation (AWS), as well as suppression of UAV control and navigation radio channels.

Detection kit (RDR)

Detection kit allows for round-the-clock radar monitoring of a protected airspace segment.

It allows to recognize tracking air objects by means of optical and thermal imaging surveillance facilities.

The Complex is fully automatic. When target is detected in coverage sector the Complex ensures video and/or thermal camera rotation, as well as switching-on of neutralization unit.

The Complex composition: detection kit (RDR), UAV neutralization kit, monitoring kit (AWS), and power supply kit

Specifications of detection kit (RDR)

Maximum detection range: - object with RCS of not less than 0.01 m² - object with RCS of not less than 0.1 m²	 1000 m 1500 m
Operating bandwidth	2300...2500 MHz
Average radiation power, maximum	100 mW
Coverage sector length, minimum	1500 m
Coverage sector value in horizontal direction	90 degrees
Coverage sector value in vertical direction	23 degrees
Simultaneously calculated flight paths	32 objects
Object range determination accuracy	1 m
External interfaces	RS-485, Ethernet, voltage free output

Neutralization kit creates a hemispherical protection zone, where control radio channels and navigation systems of quadrotors and other domestic UAVs are suppressed, resulting in their forced landing or automatic stopping near the border of protection zone (depending on UAV flight control program).

Specifications of UAV neutralization kit

Frequency bands of suppressed control channels	433 MHz / 2.4 GHz / 5.8 GHz
Types of suppressed navigation systems	GPS, GLONASS
Integral power (at power of 50 Ω), minimum	20 W
Jamming type for control channels	Broadband, barrage
Jamming type for navigation systems	simulated
Suppression radius of UAV control channels, m, minimum, for flight altitudes of: - up to 300 m; - up to 200 m	400 m 600 m
Suppression radius of UAV navigation system, m	1000 m

The monitoring kit

Monitoring kit is made based on a laptop (PC) and intended for setting RDR detection parameters, as well as for displaying flight path information about moving objects within RDR coverage sector in real-time mode. All information about detected objects is stored in database.

Specialized software «RDS1 Control Panel» is pre-installed on PC.

The kit includes interface converter USB/RS-485 designed for mating custom interface RS-485 with a conventional USB interface of PC.

- Ability to download terrain maps from any source;
- Number of simultaneously detectable objects – 32;
- Automatic alarm logging along with fixing the target parameters and saving screen-shots and videos from the video and/or thermal camera;
- Direct control of rotating device from the operator's AWS.
- Ability to transfer information via radio channel to a remote security post (up to 10 km).

The Complex installation options

Stationary option

Portable option

Mobile option

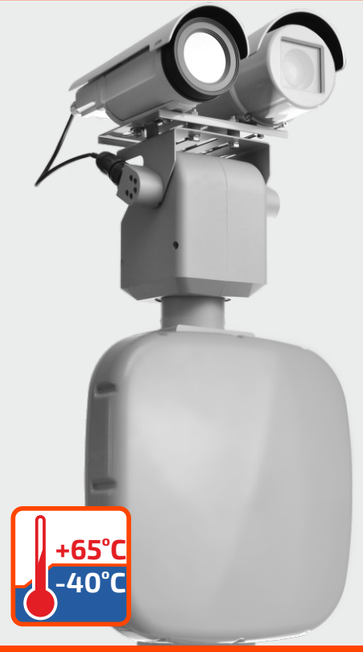
Autonomous option

EAC certified product

KORT RADESCAN

ЛУЧШИХ ТОВАРОВ РОССИИ

The complex is intended for use as a security alarm and detecting equipment for paths of moving objects on open earth or water surfaces within its coverage sector; besides, it is used for path measurement in real-time mode, provides the operator with a video image of the object, and ensures archiving and storage of video information.



Detection distance

up to 2 km

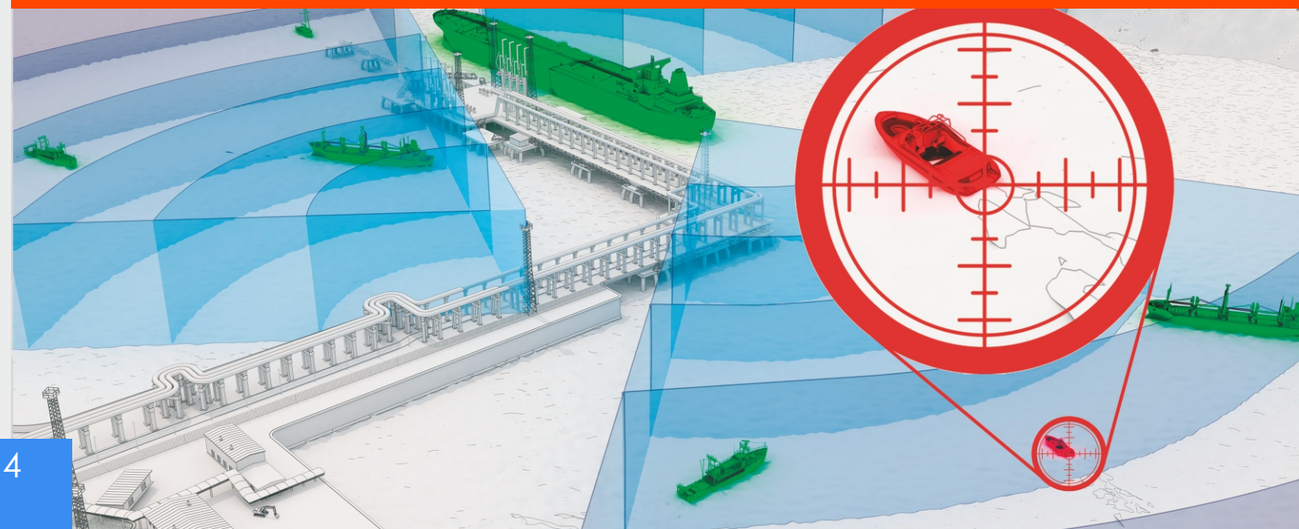
up to 2,5 km

up to 3 km

Complex scope of application

- State border
- Offshore areas
- Power plants
- Coastal strip
- Airports
- Railroad sections
- Gas pipelines
- Petroleum pipelines
- Agricultural holdings
- Highlands

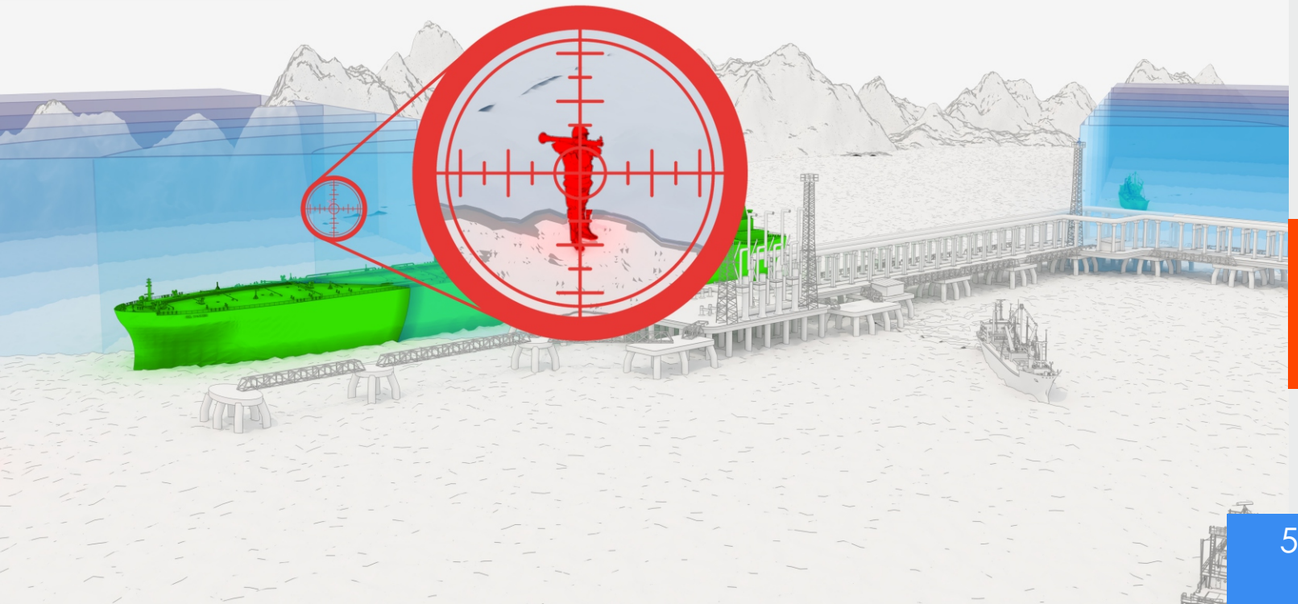
The Complex composition: detection kit (RDR), monitoring kit (AWS), and power supply kit



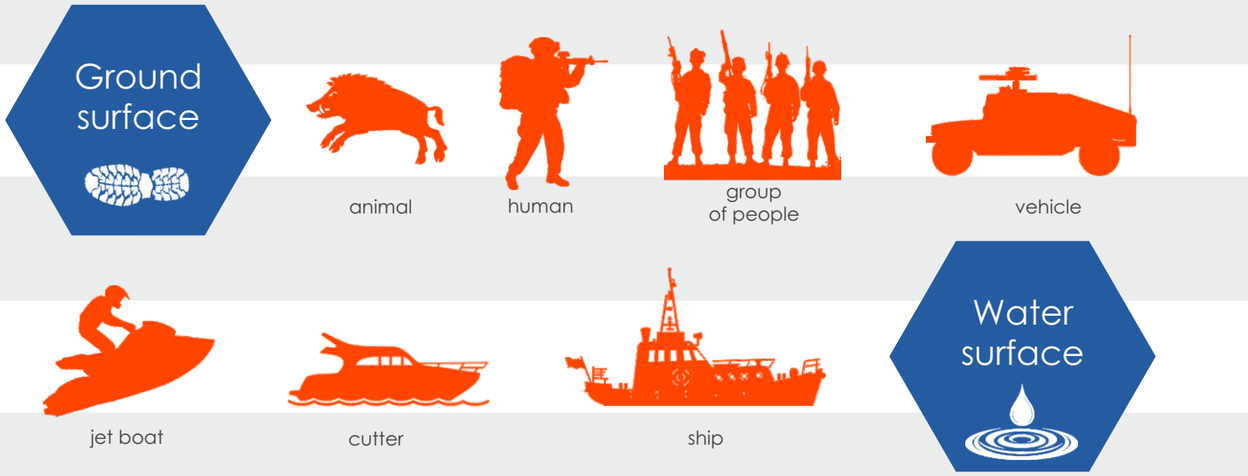
Open area and harbour security complex Umirs

Features of the Complex

- Deployment ability of a network structure made of several kits with overlapping of the coverage security sectors
- Independence of operation on weather conditions, smoke content and light conditions
- High reliability due to the absence of moving mechanical parts
- Ease of installation and low power consumption
- Low probability of false alarms
- Deployment time is 30 minutes, maximum
- Embedded interface RS-485 that can be used to transfer data on detected targets to the data collection system of remote security post
- No need to license the frequency range
- Thermal camera with controllable rotating device ensures «tracking» of an object, determines its type and kinds of actions
- RDR software and thermal camera analytics ensure security area monitoring, as well as motion direction and speed analysis of objects



Types of recognizable objects



Specifications of detection kit (RDR)

Maximum detection range: - human, RCS of 0.5 m², minimum - vehicle, RCS of 3 m₂, minimum	2000 m 3000 m
Operating bandwidth	2300...2450 MHz
Average radiation power, maximum	100 mW
Coverage sector length, minimum	3000 m
Minimum detection range, maximum	20 m
Width of coverage sector, not narrow than	90 degrees
Width of antenna beam in elevation angle, not narrow than	23 degrees
Object range determination accuracy	1 m
External interfaces	RS-485, Ethernet, voltage free output
Minimum amount of simultaneously calculated paths of detected objects, not less than	32
Operating temperature range	-40°C...+60°C
Power consumption, maximum	10 W
Average time between failures, minimum	60 000 hours

РОССИЙСКАЯ СИСТЕМА ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ

Система зарегистрирована Госстандартом РФ. Регистрационный № РОСС RU.0001.04РН00.

РосСт

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС RU.ИМ.001.П00271

Срок действия с 27.09.2013 г. по 26.09.2016 г.

Орган по сертификации РОСС RU.ИМ.001

АНО «Пензенский центр испытаний и сертификации»

440066, Проспект Победы, 124

Продукция: Радиолокационная станция «РАДЕСКАН» серийный выпуск

Код ОК 005 (ОКП) 43 7210

Соответствует требованиям нормативных документов

ЮСДП 425144.018 ТУ «РАДИОЛОКАЦИОННАЯ СТАНЦИЯ «РАДЕСКАН». Технические условия»

Изготовитель Закрытое акционерное общество «Фирма «ЮМИРС» (ЗАО «ЮМИРС») ИНН 5835015359

Адрес: 440600 г. Пенза, ул. Антонова, дом 3

Сертификат выдан Закрытое акционерное общество «Фирма «ЮМИРС» (ЗАО «ЮМИРС») ИНН 5835015359

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На основании Заявка-декларация № 302П – ZD от 26.09.2013 г., протоколов испытаний № 398Ц от 26.09.2013 г., № 396ЦЦ от 26.09.2013 г. Испытательного центра Открытого акционерного общества "Пензенское производственное объединение электронной вычислительной техники" (№ РОСС RU.0001.22МО20)

Дополнительная информация -

Руководитель органа (эксперт) С. Б. Кулыгаков

Подпись

Инициалы, фамилия

Эксперт А. Ю. Грязнов

Подпись

Инициалы, фамилия

Certified product

The complex «KORT Radescan» is the only one among other location systems that has a certificate of compliance of technical means ensuring transport safety with the requirements for their functional properties.

МИНИСТЕРСТВО ВНУТРЕННИХ ДЕЛ РОССИЙСКОЙ ФЕДЕРАЦИИ

ОБЯЗАТЕЛЬНАЯ СЕРТИФИКАЦИЯ ТЕХНИЧЕСКИХ СРЕДСТВ ОБЕСПЕЧЕНИЯ ТРАНСПОРТНОЙ БЕЗОПАСНОСТИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

технических средств обеспечения транспортной безопасности требованиям к их функциональным свойствам

№ МВД РФ.03.000003

(номер сертификата)

Дата выдачи 05 октября 2017 г.

Срок действия с 05 октября 2017 г. по 05 октября 2020 г.

(для серийно выпускаемых технических средств обеспечения транспортной безопасности)

Настоящий сертификат соответствия удостоверяет, что Комплекс охранный радиолокационно-телевизионный «РАДЕСКАН»

(наименование технического средства обеспечения транспортной безопасности,

ЮСДП.425144.009 ТУ

шифр, марка, серийный номер)

соответствует пунктам п.п. 4-7

(номера пунктов, статей)

требований к функциональным свойствам технических средств обеспечения транспортной безопасности, утвержденных постановлением Правительства Российской Федерации от 20 сентября 2016 г. № 969

на основании протокола испытаний № 1-1118 / 1-095-08-УП выдан (номер, наименование, № Ф.И.О.) ЦИПИ

Органом по сертификации технических средств

Сертификат соответствия выдан обеспечения транспортной безопасности ФКУ НПО «СТиС» МВД России

(наименование органа по сертификации)

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(наименование, адрес местонахождения организации-заявителя)

Производитель ЗАО «ЮМИРС»

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Руководитель органа по сертификации

(должность, подпись, инициалы, фамилия руководителя этого органа)

П.О. Калесников

(подпись) (инициалы, фамилия)

Настоящий сертификат соответствия зарегистрирован в реестре выданных сертификатов соответствия технических средств обеспечения транспортной безопасности требованиям к их функциональным свойствам

05 октября 2017 г. Регистрационный номер 000003

№ 000003

(учетный номер бланка)

Open area and harbour security complex Umirs

Monitoring kit (AWS)

Differentiation of Administrator and User access rights for operation with software (SW), affecting the program functionality and user interface is arranged. User passwords are set in the program «Customization Wizard» and stored in protected form

Alarm logging along with fixing the detected target motion path parameters and saving screenshots and videos from the video and thermal cameras is provided

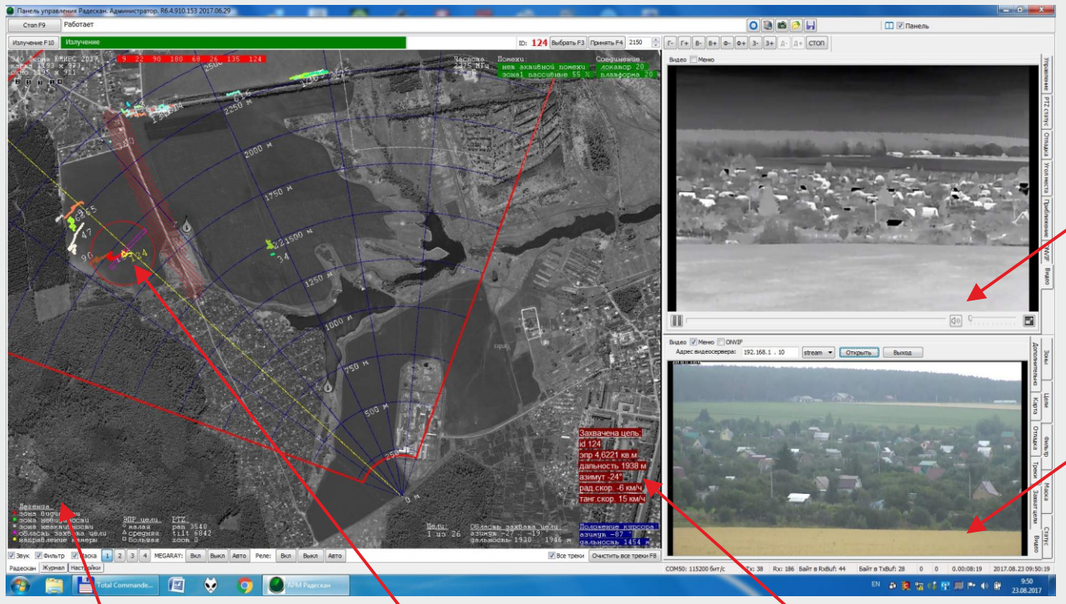
Alarm log storage is provided in MS Access database with the base file password protection

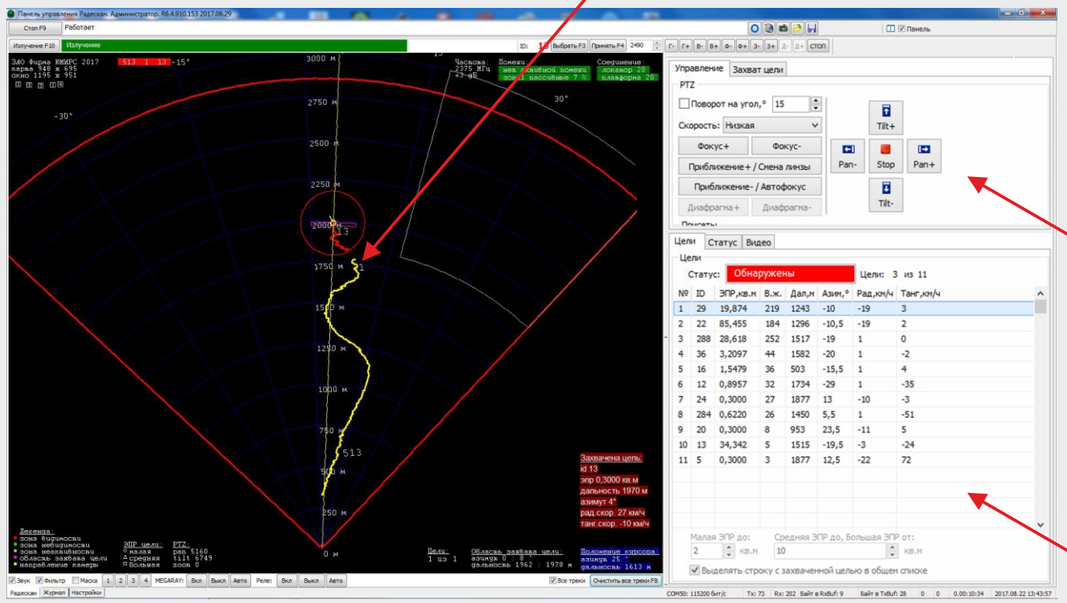
SW operation through physical COM port of USB/RS-485 converter via 2-wire RS-485 interface at a rate of 115,200 bit/s is possible

SW operation through virtual COM port of Ethernet/RS-485 converter via Ethernet interface is possible

Operator's response to detected paths is monitored; besides, it is possible to set a text comment to event when confirming the path, along with saving to the alarm log

The program interface supports Russian and English languages.





Storage of all settings made for SW in a file on PC hard disk is provided

PTZ control of rotating device using software joystick directly from the operator's AWS SW is available

Autotracking of one of the targets selected by operator along with video stream recording from video or thermal camera to alarm log is provided

The complex output alarm relay actuating for a time of target tracking is provided. It is possible to select alarm state of relay – closed or open

Full logging of all detected RDR paths to a file on PC hard disk, as well as playback ability of saved paths from file are implemented

Automatic acquisition of emerged target and its lock-on for tracking with issue of voice annunciation to operator are implemented

Voice annunciation of operator about target acquisition and tracking, that is different for receding and approaching targets, is used

Displaying of two RTSP video streams from the video and thermal cameras in real-time mode with the ability to expand them to full screen is implemented

Open area and harbour security complex Umirs

Automatic correction of the rotary platform operation in elevation angle through a fillable table of azimuths and ranges is provided

Simultaneous control of two IP devices via ONVIF standard (e.g., automatic call of the camera presets based on information about the target azimuth and range received from RDR) is supported

There is a separate built-in utility for managing IP devices via ONVIF standard, as well as ability to organize an independent floating window for displaying a video stream from an IP device for deployment on a separate monitor

SW connection to IP devices via RTSP protocol or through embedded browser with a web interface is available

Loadable map of the object of protection from jpeg file on PC hard disk is used. It is possible to set displaying of various information layers on the map and combine them

It is enabled to specify up to 25 quick presets of the rotating device position for operational observation of an important areas of the object, as well as define text comments for them

A variety of graphic representations of moving objects on the graphic map of the object of protection is used, depending on the value of estimated RCS

Autonomous option

Wide possibilities of software filtering of paths issued by RDR are available (by RCS, range, azimuth, speed, etc.) There is advanced hardware filter classifier: plant/useful object. It is possible to combine various filters in real-time mode

Convenient graphic masks of software filtering for paths applied by the mouse pointer on the object of protection plan are implemented. It is possible to combine up to 4 various masks at the same time

Time setting, track displaying on the map and its automatic deletion (erasing) upon the expiration of this time period are available

The use of hot function keys on PC keyboard is supported to ensure operational work with the program interface

Visualization of the rotating device rotation angle in azimuth on the graphic plan of the object of protection is supported (displaying of the camera field-of-view direction)

The program interface Customization Wizard is available depending on the type of equipment in use (video camera, thermal camera, rotating device, etc.)

Simultaneous displaying of up to 30 motion tracks on the graphic map of the object of protection, as well as displaying in a table form along with all determined target parameters and with assignment of a unique ID numbers are supported

Internal diagnostics of RDR equipment in a real-time mode, as well as jamming environment assessment during operation (active and passive jamming), and its signaling in a graphical form on the map are provided

Mount Elbrus, altitude of 4500 m

Tests at average daily air temperature of 37.5 °C

Open area and harbour security complex Umirs

Provisions are made for RDR operation sector positioning at any point of the graphic plan of the object of protection, and its rotation by angles of up to 360°C, as well as sector scaling to ensure an accurate reference to the terrain map

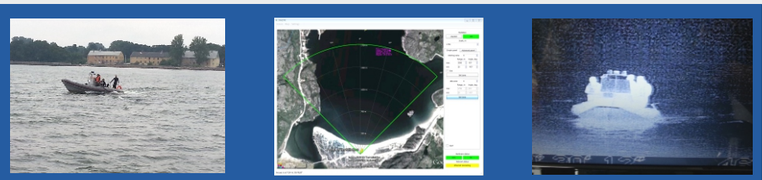
Provisions are made for logging maintenance and service messages of the program and monitoring data exchange with RDR electronics through an open connection port

Automatic communication reactivation with RDR equipment and reconnection of open video streams from IP devices after communication interruptions are implemented

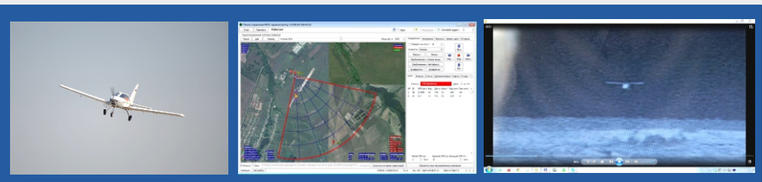
There is a graphic displaying of the object motion direction on the map based on information about tangential radial speed received from RDR

A choice of different color schemes for displaying tracks on the map, as well as their construction types (points or lines) is available

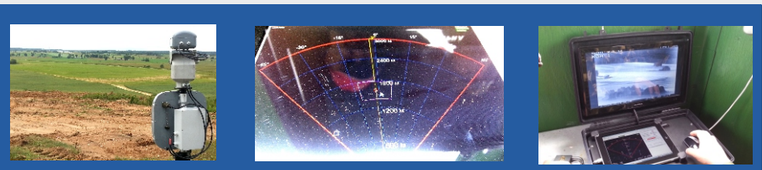
Operational control of the RDR radiation (disarming/arming), as well as switching of the operating radiation frequencies and selection of the path detection sensitivity are implemented



Acquisition and tracking of a small surface target



Acquisition and tracking of low-flying UAVs

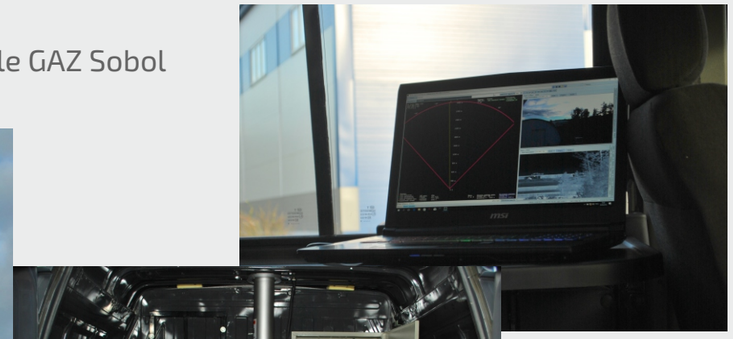


Acquisition and tracking of a person, group of persons, cars and other vehicles

Mobile option

KORT Radeskan

Mounted on the chassis of vehicle GAZ Sobol



Murena-01

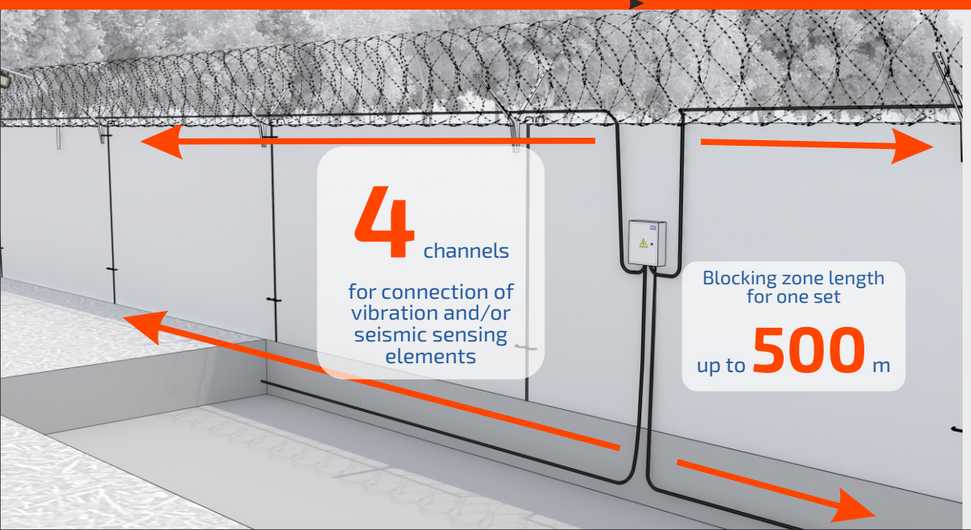
EAC certified product

The article is a passive vibration detection equipment. Its operating principle is based on detection of elastic mechanical oscillations of fences when somebody is attempting to overcome them. The article main purpose is blocking of artificial obstacles made of welded metal panels «MAKHAON-standard» and their analogs up to 3 meters high by means of vibration and seismic sensing elements.

Features

- The article «Murena-01» is provided with four inputs used for connection of vibration and/or seismic sensing elements (VSE and SSE, respectively).
- The article ensures rupture and fault detection by means of VSE and SSE.
- The maximum blocking line length of artificial obstacles using VSE and SSE by one article is 500 m (2 flanks, each 250 m long in two lines).
- All external circuits of the article are protected against atmospheric and induced electricity, as well as against temporary overloads.

Vibration detection equipment «Murena-01» forms part of the engineering and technical security systems of «MURENA» Series



Detection of

climbing over

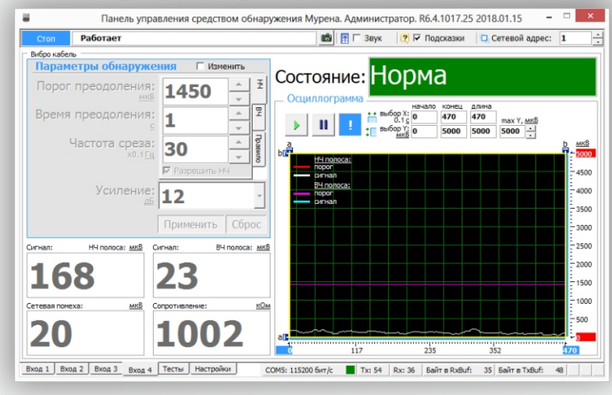
undermining

Sensing elements

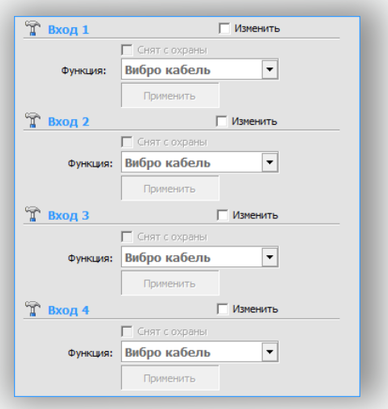
Triboelectric sensor cable

Seismic shielded cable

Setup program «Murena Control Panel»



- Setup program «Murena Control Panel» is started on computer with operating systems Windows, and interacts with detector via RS-485 interface using USB/RS-485 converter, e.g., URS-230 produced by UMIRS Company.
- The user can change input functions of the Murena detector (Vibro/Seysmo/Disabled) on the tab Settings->Setup program input functions.



- The user can change device operation parameters, view current settings and waveform on the tab related to a specific input.
- On other tabs the user can change and view other parameters of the device.
- Variable parameters are stored in the detector non-volatile memory.
- Setup program is distributed free of charge, included in the warning device delivery set, and is available for download on the web-site www.umirs.ru.

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Alarm control panel «PK-Murena»

Alarm control panel «PK-Murena»

- Fire alarm control panel «PK-Murena» ensures manual change of the detection algorithm parameters, indication of input signal level, and performance monitoring.

Murena-02

EAC certified product

The article is a passive vibration detection equipment. Its operating principle is based on detection of elastic mechanical oscillations of fences when somebody is attempting to overcome or break down them (saw, cut through a mesh or razor blade wire spirals) when using vibration sensing element, or on recording ground vibrations when using seismic sensing element

Features

- The article «Murena-02» is provided with four inputs used for connection of vibration sensing elements (VSE).
- The article ensures rupture and fault detection by means of VSE.
- The maximum blocking line length of artificial obstacles using VSE by one article is 500 m (2 flanks, each 250 m long in two lines).
- All external circuits of the article are protected against atmospheric and induced electricity, as well as against temporary overloads.

Vibration detection equipment «Murena-02» forms part of the engineering and technical security systems of «MURENA» Series

Detection of

climbing over

sawing

Operation in two frequency spectra

- The signal analysis from vibration sensing elements is performed in two frequency spectra for detection of climbing over and sawing. At that attenuation of industrial interference with a frequency of 50 Hz and suppression of harmonics at a level of 60 dB are provided.

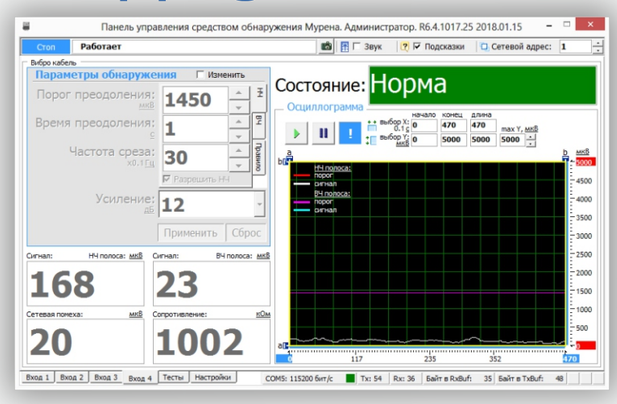
from 0 to 10 Hz

from 10 to 100 Hz

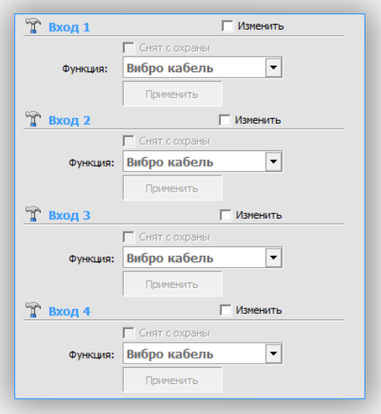
Vibration sensing element

- VSE is hermetically sealed, and intended for continuous twenty-four-hour operation at ambient temperature from minus 50°C to plus 50°C.

Setup program «Murena Control Panel»



- Setup program «Murena Control Panel» is started on computer with operating systems Windows, and interacts with detector via RS-485 interface using USB/RS-485 converter, e.g., URS-230 produced by UMIRS Company.
- The user can change input functions of the Murena detector (Vibro/Seysmo/Disabled) on the tab Settings->Setup program input functions.



- The user can change device operation parameters, view current settings and waveform on the tab related to a specific input.
- On other tabs the user can change and view other parameters of the device.
- Variable parameters are stored in the detector non-volatile memory.
- Setup program is distributed free of charge, included in the warning device delivery set , and is available for download on the web-site www.umirs.ru.

Fire alarm control panel «PK-Murena»

Fire alarm control panel «PK-Murena»

- Fire alarm control panel «PK-Murena» ensures manual change of the detection algorithm parameters, indication of input signal level, and performance monitoring.

Murena-K Series

Murena-K-01, Murena-K-02, Murena-K-03

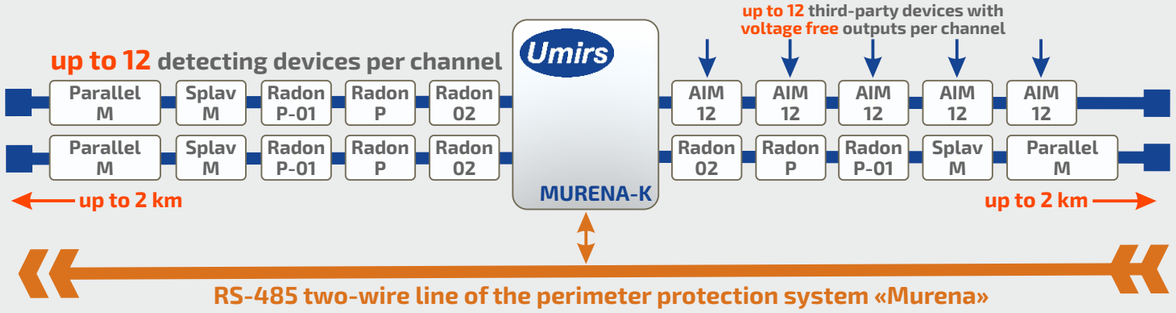
EAC certified product

According to its functional purpose, the product line belongs to combined perimeter security equipment. The articles are intended for operation in collaboration with radio-wave two-position linear detectors «Radon-02», «Radon-P», «Radon-P-01», infrared optoelectronic passive detector «Splav-M», as well as with wire-wave linear security detector «Parallel-M».

Murena-K

4 channels — power-feeding/alarm loops

The article **Murena-K** main purpose is data collection about alarms received from detectors that are connected to power-feeding/alarm loop. The article operating principle is based on extraction of **OFDM** signal shaped by detectors – each detector supplies alarm signal at its fixed frequency, detected and separated from one another by the article processing unit. Apart from alarm signal alarm transmission, the power-feeding/alarm loop energizes detectors.



Combined detection equipment of «Murena-K» Series forms part of the engineering and technical security systems of «MURENA» Series

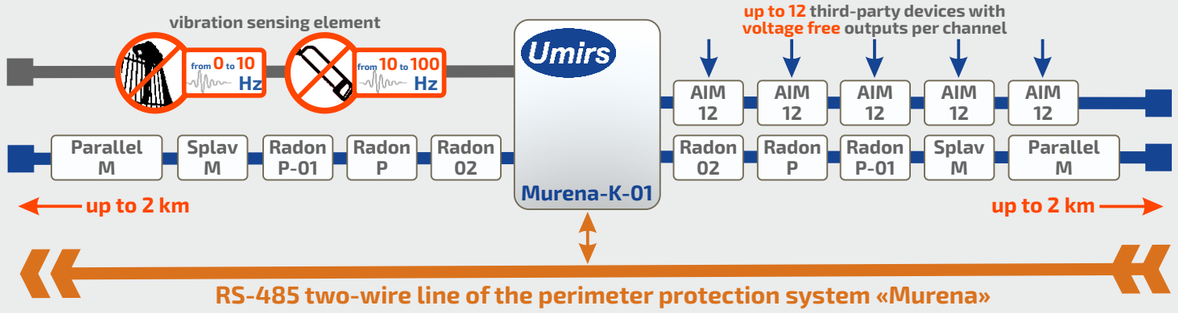
Combined detection equipment

Murena-K-01

1 channel — vibration sensing element

3 channels — vibration sensing element

The article **Murena-K-01** employs one channel for connecting **vibration sensing element (VSE)**, three channels are **power-feeding/alarm loops**, that are used both for feeding detectors and transmitting alarm signals (each detector supplies alarm signal at its fixed frequency). **Up to 12** detecting devices can be connected to each channel.



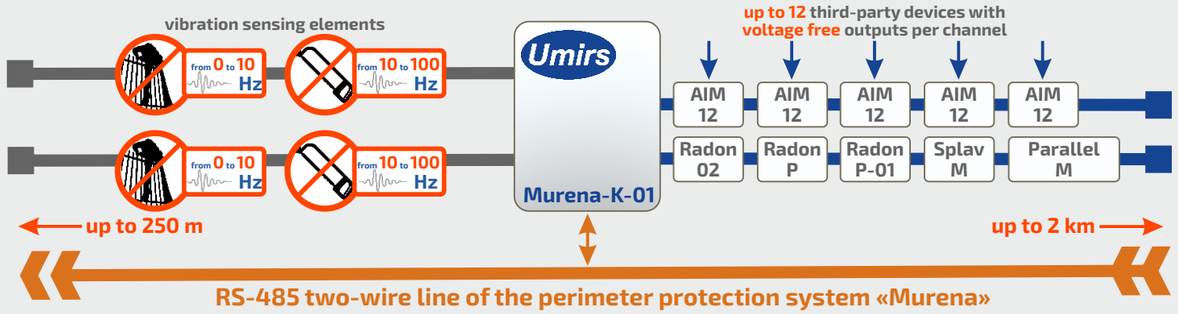
Murena-K-02

2 channels — vibration sensing elements

2 channels — power-feeding/alarm loops

The article **Murena-K-02** employs two channels for connecting **vibration sensing elements (VSE)**, two channels are **power-feeding/alarm loops**.

The articles of **Murena-K** Series proved to be excellent ones when blocking artificial obstacles made of welded metal panels **MAKHAON-standard** and their analogs up to 3 meters high by means of VSE. The article ensures rupture and fault detection by means of VSE.



Murena-K-03

3 channels — vibration sensing elements

1 channel — power-feeding/alarm loop

- Vibration sensing element is hermetically sealed, and intended for continuous twenty-four-hour operation at ambient temperature from minus 50°C to plus 50°C.
- The signal analysis from vibration sensing elements is performed in two frequency ranges for detection of climbing over and sawing. At that attenuation of industrial interference with a frequency of 50 Hz is performed at a level of 60 dB.

R-10

explosion-proof radio-wave detector

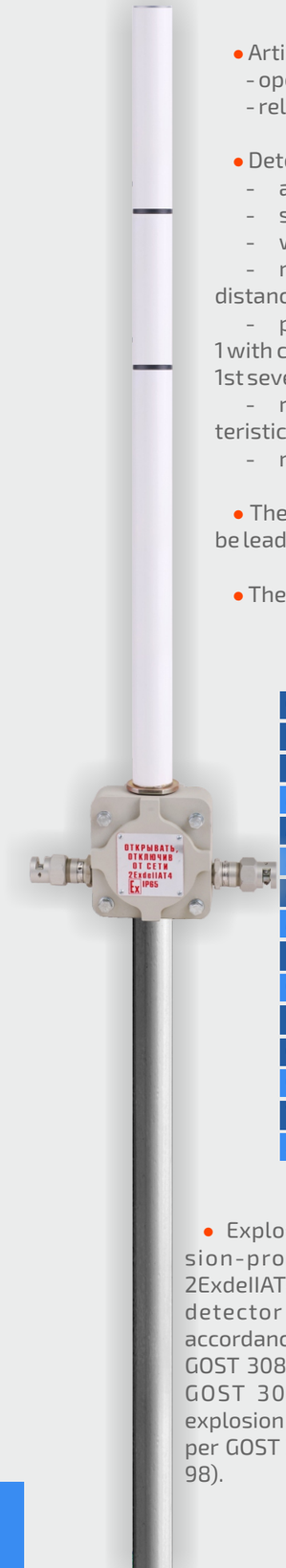
EAC certified product

Detector is intended for detection of a person (trespasser) movement in security area, and shall be used as security alarm equipment at oil and gas, chemical facilities, as well as in other industrial fields. It is recommended to use this detector at open sites having metal or reinforced concrete fencing.

Features

- Scope of the Detector application: the 1st and 2nd class explosion-hazard areas as per GOST 30852.9-2002 (IEC 60079-10-95) for premises and external installations as per GOST 30852.13-2002 (IEC 60079-14-96) and other reference documents regulating the use of electrical equipment in explosion-hazard areas.
- Detector meets the requirements of Technical Regulation of Customs Union TR CU 020/2011 «Electromagnetic Compatibility of Technical Equipment».
- Detector meets the requirements of Technical Regulation of Customs Union TR CU 012/2011 «On the safety of Equipment Intended for use in Explosive Environments».

The detector set can include up to **5 receiver units** to ensure protection of larger sites and sites with a complex configuration.



- Article operating conditions:
  - operating temperature range from minus 50°C to plus 65°C;
  - relative air humidity up to 100 % at temperature of +25°C.

- Detector is resistant to the following disturbances:
  - atmospheric precipitations (rain and snow) up to 20 mm/h;
  - solar radiation;
  - wind with a speed of up to 30 m/s;
  - movement of a single small animals or birds (not bigger than a cat) in DA at a distance of more than 0.5 m from detector;
  - pulse jamming in power supply circuits and alarm loop according to the method УК 1 with characteristics for the 1st test severity level, according to the method УК 2 - for the 1st severity level as per GOST R 50009-2000 and GOST R 51699-2000;
  - radio-frequency electromagnetic fields according to the method УИ 1 with characteristics for the 1st test severity level as per GOST R 50009-2000 and GOST R 51699-2000;
  - movement of a person and vehicles outside the fence.

- The unit shall be connected to support with four bolts. The local network cable shall be lead in the unit wiring closet through explosion-proof cable entries A2F20 or FL1.

- The detector design ensures ingress protection rating IP65 as per GOST 14254-96.

Specifications

Operating frequency	8868.1±0.1 MHz
Explosion-proof mark	2ExdeIIAT4
Range of detectable rates	from 0.3 to 5.0 m/s
Maximum length of detection area	10 m, minimum *
Minimum length of detection area	2 m, maximum
Maximum surface of detection area	40 m², minimum *
Maximum width of detection area	6 m, minimum *
Maximum height of detection area	2.2 m, minimum
Range of operating supply voltages	from 10.2 to 30 V
Consumption current of standard set	65 mA, maximum
Readiness time after power-on	30 s, maximum
Overall dimensions of detector units without supports	780x265x70 mm, maximum
Overall dimensions of supports	1300x100x55 mm, maximum
Weight of packaged detector	25 kg, maximum
Average service life of detector	8 years

** Values are given for standard set*

- Explosion protection of «explosion-proof enclosure» type with 2ExdeIIAT4 mark is provided by the detector shell structure made in accordance with the requirements of GOST 30852.1-2002 (IEC 60079-1-98), GOST 30852.82002, and general explosion protection requirements as per GOST 30852.02002 (IEC 60079-0-98).

Delivery set

Transmitter unit – 1 pc
Receiver unit – 1 pc *
Support set – 1 pc *
Power supply unit «Radiy-BP» – 1 pc *
Package – 1 pc
Operation Manual – 1 copy
Certificate – 1 copy

** – optionally*

Radiy-2
Radiy-2/24 Series

EAC certified product

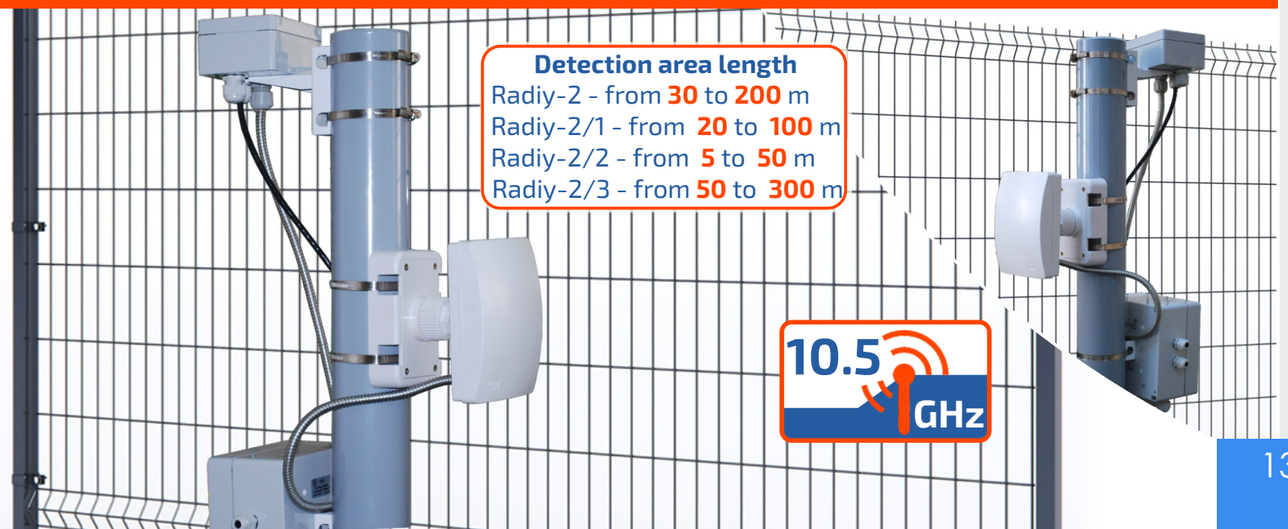
Detector is intended for use as perimeter security alarm equipment, and ensures detection of a person crossing the security area.

The above-mentioned detector is a new generation technical equipment made based on «DIGILON» information technology.

Features

- The detector ensures continuous twenty-four hour operation, maintains its functional capability, and does not create any alarm notifications in case of precipitations in the form of rain, snow, fog, solar radiation, presence of birds and small animals.
- Ease of mounting and settings in the automatic mode without the use of any special tools and non-standard measuring devices.
- Ability of fine tuning of parameters in accordance with characteristics of the object of protection in the manual mode using tuning board or personal computer via **RS-485** interface.
- The Series «Radiy-2» includes **four modifications** which differ by the detection area length.

Detectors «Radiy-2» are integrated into engineering and technical security systems of «MURENA» Series using interface adapter «Uzel-M»



- Detector ensures issue of alarm notification by opening output relay.
- Detector ensures issue of notification about opening of units when removing RX/TX covers.
- It is recommended to use power source «RADIY-BP» (0.5 A, 24 V) for power supply from 220 VAC mains.

It is possible to setup detectors from the security room via RS-485 interface. RS-485 interface allows for combining detectors into a single network along with assignment of a unique address to each set.

- Setup program allows for visual control of the waveform from trespasser, change of detection threshold levels, frequency channel, speed range of an alleged trespasser, and other detection algorithm parameters.

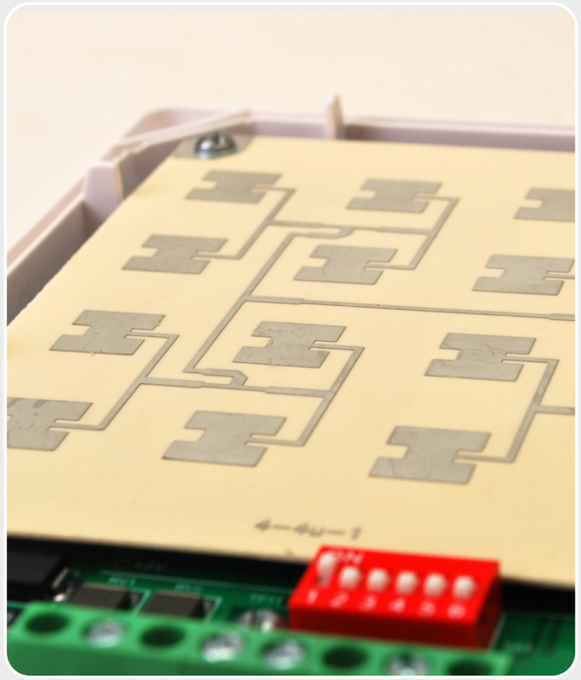
Setup program for OS Windows is delivered free of charge, and can be installed on any laptop.

- Overall dimensions of detector units without installation kit – 160x115x100 mm, maximum.
- Weight of detector units without installation kit – 0.35 kg, maximum.

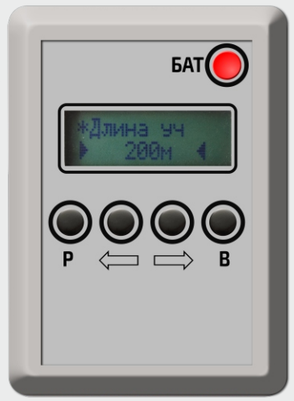
Specifications

Operating frequency	10.5 GHz
Detection area length	from 5 to 300 m
Detection area height	from 1.2 to 2 m
Ingress protection rating	IP55
Range of detectable rates	from 0.1 to 10.0 m/s
Range of operating supply voltages	from 8 to 30 V
Consumption current at supply voltage of 24 V24 B	25 mA, maximum

Antenna unit of two-position detector Radiy-2



Tuning board of receiver unit



Delivery set

Transmitter unit – 1 pc
Receiver unit – 1 pc
Installation kit – 1 pc
Junction box – 2 pcs *
Power supply unit «Radiy-BP» – 1 pc *
Tuning board – 1 pc *
Interface adapter «Uzel-M» – 1 pc *
Operation Manual – 1 copy
Certificate – 1 copy

* – optionally

Radiy-DM

EAC
certified product

does not require registration in the State Commission for Radio Frequencies (SCRF)

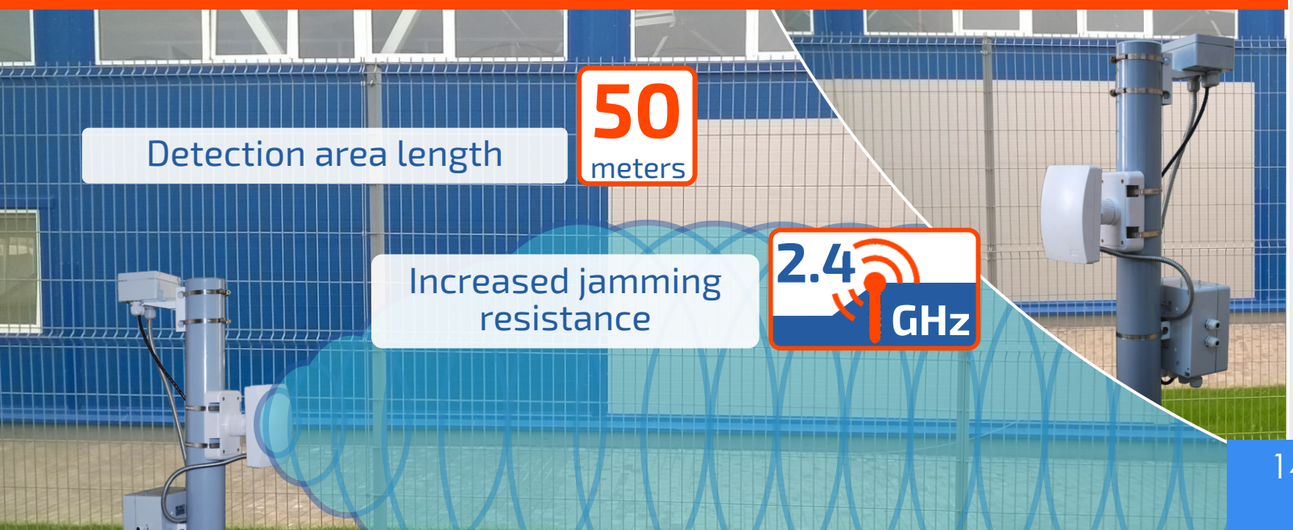
Detector is intended for use as perimeter security alarm equipment, and ensures detection of a person crossing the security area.

The above-mentioned detector is a new generation technical equipment made based on «DIGILON» information technology.

Features

- Detector ensures continuous twenty-four-hour operation, maintains its functional capability, and does not issue any alarm notifications in case of precipitations in the form of rain, snow, fog, solar radiation, presence of birds and small animals.
- Ease of mounting and settings in the automatic mode without the use of any special tools and non-standard measuring devices.
- Ability of fine tuning of parameters in accordance with characteristics of the object of protection in the manual mode using tuning board or personal computer via **RS-485** interface.

Detectors «Radiy-DM» are integrated into engineering and technical security systems of «MURENA» Series using interface adapter «Uzel-M»



Two-position microwave detectors
Umirs

- Detector ensures issue of alarm notification by opening output relay.
- Detector ensures issue of notification about opening of units when removing RX/TX covers.
- It is recommended to use power source «RADIY-BP» (0.5 A, 24 V) for power supply from 220 VAC mains.

It is possible to setup detectors from the security room via RS-485 interface. RS-485 interface allows for combining detectors into a single network along with assignment of a unique address to each set.

- Setup program allows for visual control of the waveform from trespasser, change of detection threshold levels, frequency channel, speed range of an alleged trespasser, and other detection algorithm parameters.

Setup program for OS Windows is delivered free of charge, and can be installed on any laptop.

- Overall dimensions of detector units without installation kit – 160x115x100 mm, maximum.
- Weight of detector units without installation kit – 0.35 kg, maximum.

Specifications

Operating frequency	2.4 GHz
Detection area length	up to 50 m
Detection area height	from 1.2 to 2 m
Ingress protection rating	IP55
Range of detectable rates	from 0.1 to 10.0 m/s
Range of operating supply voltages	from 8 to 30 V
Consumption current at supply voltages of 24 V	25 mA, maximum

Tuning board of receiver unit

Antenna unit of two-position detector Radiy-DM

Delivery set

Transmitter unit – 1 pc
Receiver unit – 1 pc
Installation kit – 1 pc
Junction box – 2 pcs *
Power supply unit «Radiy-BP» – 1 pc *
Tuning board – 1 pc *
Interface adapter «Uzel-M» – 1 pc *
Operation Manual – 1 copy
Certificate – 1 copy

** – optionally*

dHunt

EAC
certified product

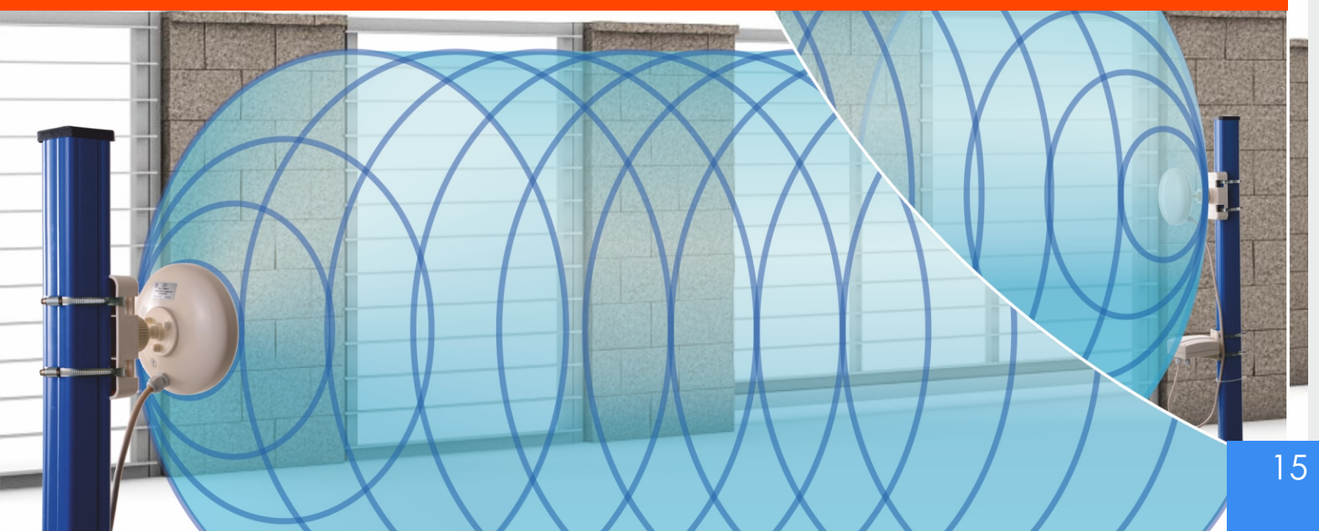
does not require registration in the State Commission for Radio Frequencies (SCRF)

Two-position microwave detectors are intended for use as perimeter security alarm facilities, and ensure detection of a person crossing the security area as follows: «bending down», «standing» or «climbing over a fencing».

Features

- Blind volumetric detection area. No broad exclusion zone is needed in case of installation along the fencing or directly on it.
- The carrier frequency value is set based on software, and has **200 frequency channels** in the frequency range of (24.05... 24.25) GHz. This allows to completely eliminate the mutual influence of several dozens of side-by-side operating detectors.
- The receiver portion is made according to superheterodyne circuit. This ensures stable operation and high jamming resistance. This is particularly essential when being exposed to various jammers and interference effects in case of installation near fencing.

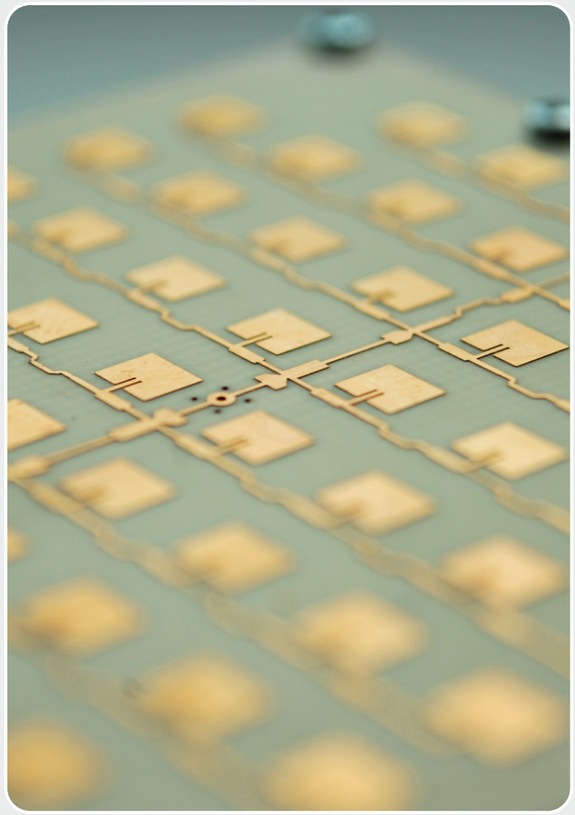
Two-position detectors «DHunt» form part of the engineering and technical security systems of «MURENA» Series



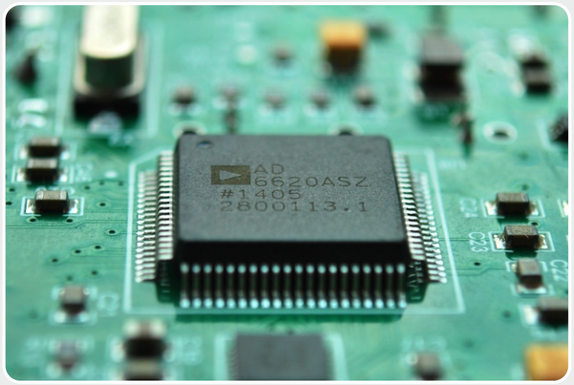
- It is possible to setup detectors from the security room via RS-485 interface. RS-485 interface allows for combining detectors into a single network along with assignment of a unique address to each set.
- Setup program allows for visual control of the waveform from trespasser, change of detection threshold levels, frequency channel, and speed range of an alleged trespasser.
- Setup program for OS Windows is delivered free of charge, and can be installed on any laptop.
- There are two structural design types. The Series «dHunt» has three types of detectors with a length of protected line equal to 100 m, 200 m, and 300 m.

Specifications

Operating frequency	24.05 ... 24.25 GHz
Detection area (DA) length	up to 500 m (under specific conditions)
DA height at 300 m long line	1.5 m, minimum
DA width at 300 m long line	2 m, maximum
Range of detectable rates	from 0.1 to 10.0 m/s
Range of operating supply voltages	from 9 to 36 V
Consumption current at operating supply voltage of 24 V	100 mA, maximum



Antenna unit of two-position detector dHunt



Delivery set

Transmitter unit (TX) – 1 pc
Receiver unit (RX) – 1 pc
USB/RS-485 interface converter – 1 pc
Installation kit – 1 pc
Junction box – 2 pcs
Package – 1 pc
Software on CD – 1 pc
Operation Manual – 1 copy
Certificate – 1 copy

Tantal-200V-01
Tarbat-200V-01*

EAC
certified product
does not require registration in the State Commission for Radio Frequencies (SCRF)

Detector is intended for use in explosion-hazard areas. It ensures detection of a person crossing the detection area.. No broad exclusion zone is needed in case of installation along the fencing or directly on it.

Features

- Explosion protection 1Ex ib IIB T6 Gb X
- Availability of three frequency channels (letters) to avoid mutual influence of detectors.
- Automatic sensitivity setting.
- Provisions are made for fine setting of thresholds using laptop (for non-standard mounting conditions).
- The receiver portion is made according to superheterodyne circuit. It ensures detection of a person crossing the detection area. This is particularly essential when being exposed to various jammers and interference effects in case of installation near fencing.
- Increased EMI resistance.

* Two-position detector «Tarbat-200V-01» is entered on the register of core products purchased by Transneft PJSC

1Ex ib IIB T6 Gb X

3 frequency channels (letters)

Two-position detectors «Tantal-200V-01» form part of the engineering and technical security systems of «MURENA» Series

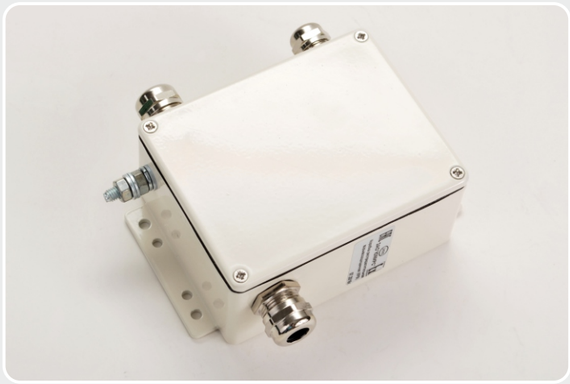
- It is possible to setup detectors from the security room via RS-485 interface. Apart from alarm notifications, the following service messages are transmitted to the operator's console via RS-485 interface: failure, decapsulation, supply voltage drop, communication line breakdown, low signal level.
- Setup program for OS Windows is delivered free of charge, and can be installed on any laptop.
- Setup program allows for visual control of the waveform from trespasser, change of detection threshold levels, frequency channel, speed range of an alleged trespasser, and other detection algorithm parameters.
- RS-485 interface allows for combining detectors into a single network along with assignment of a unique address to each set.

Specifications

Operating frequency	24.15±0.1 GHz
Detection area (DA) length	from 5 to 200 m
DA height at 200 m long line	2 m, maximum
DA width at 200 m long line	2 m, maximum
Range of detectable rates	from 0.1 to 10.0 m/s
Range of operating supply voltages	from 7 to 26 V
Consumption current at operating supply voltage of 24 V	30 mA, maximum

Intrinsic safety barrier BIB-04R-24S

Explosion-proof junction box



Delivery set

Transmitter unit (TX) – 1 pc
Receiver unit (RX) – 1 pc
Explosion-proof junction box – 2 pcs
Clamp 1Λ 70-90 7H – 4 pcs
Intrinsic safety barrier BIB-04R-24S – 1 pc
Intrinsic safety barrier BI-485 – 1 pc
USB/RS-485 interface converter «URS- 230» – 1 pc
Software on CD – 1 pc
Package – 1 pc
Operation Manual – 1 copy
Certificate – 1 copy

Anchar-40-01* Series
Amir-40-01** Series

EAC certified product

does not require registration in the State Commission for Radio Frequencies (SCRF)

Detector is automatic one-position radar intended for detection of a person movement in the detection area (30); it shall be used as security alarm equipment at open sites, on roofs of buildings or indoors.

Features

- Detector has two employment options for security purposes:

– option **«curtain»** which ensures optimum performance for detection of a person moving in perpendicular direction to the security area plane;

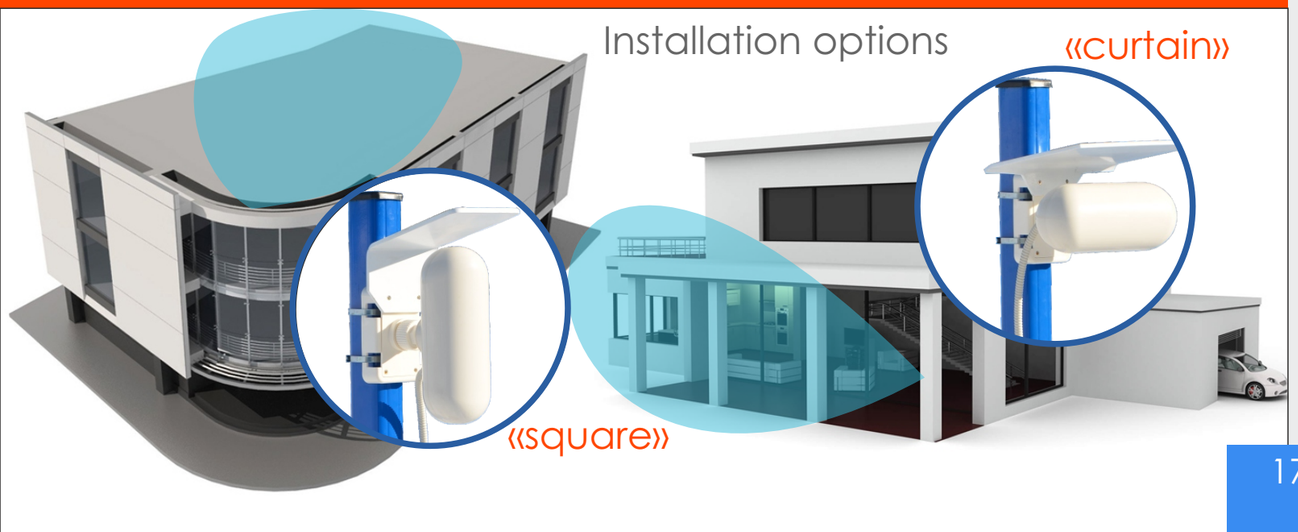
– option **«square»** which is customized for detection of a person moving in tangential direction in the security area plane.

- Detector has the possibility of detection (differentiated with respect to detection range) a person moving in DA, that is conditionally divided into 1-12 subarea, each 4.2 m long, and issues alarm message via RS-485 interface together with indication of respective subarea. Displaying of alarm message for two adjacent subareas if trespasser is on the border of subareas is allowed.

* One-position detectors «Anchar-40-01» and «Anchar-40A-01» are entered on the register of core products purchased by **Gazprom PJSC**

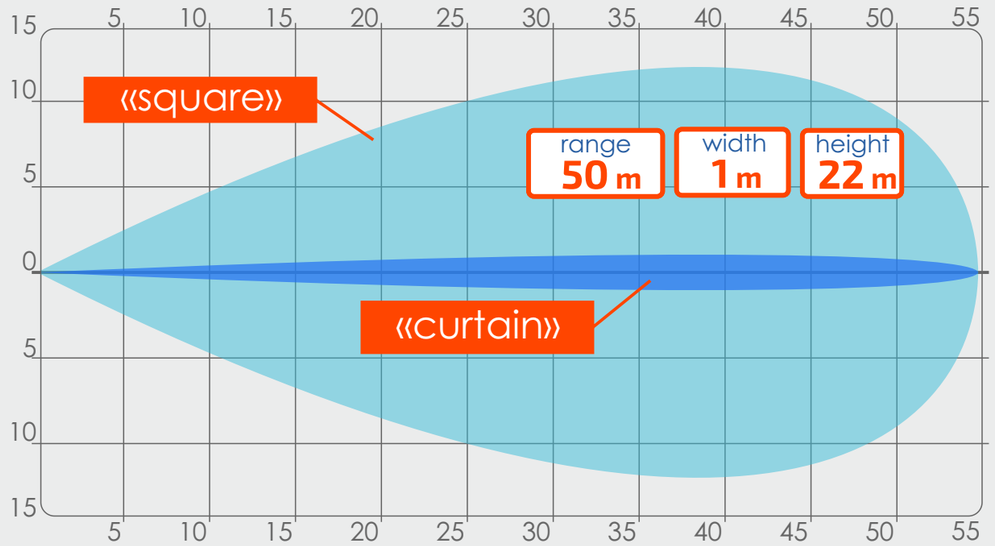
** One-position detectors «Amir-40-01» and «Amir-40A-01» are entered on the register of core products purchased by **Transneft PJSC**

One-position detectors «Anchar-40-01» form part of the engineering and technical security systems of «MURENA» Series



One-position microwave detectors
Umirs

Size of detection areas, m



Climatic categories

+65°C / -40°C	У1 as per GOST 15150-69	ANCHAR-40-01 AMIR-40-01
+55°C / -60°C	ХЛ1 as per GOST 15150-69	ANCHAR-40A-01 AMIR-400-01

- Detector shapes alarm notification by opening output contacts in the signaling loop «SL» circuit, as well as transmits message via RS-485 interface to PC in the following circumstances:

- when person is crossing DA (for option «curtain»);

- when person is moving in DA in tangential direction by a distance of not greater than 3 m (for option «square»);

- in the event of acts of sabotage – radiation shielding with the use of radar-reflecting or radar-absorbing materials in the nearest zone or effect of masking radiation.

- Detector has the possibility of detection (differentiated with respect to detection range) a person moving in DA, that is conditionally divided into 12 subareas, each 4.2 m long, and issues alarm message via RS-485 interface together with indication of respective subarea. Displaying of alarm message for two adjacent subareas if trespasser is on the border of subareas is allowed.

Delivery set

Transceiver unit – 1 pc
Installation kit – 1 pc
Junction box – 1 pc
Clamp 1Λ 70-90 7H – 4 pcs
USB/RS-485 interface converter «URS-230» – 1 pc
Software on CD – 1 pc
Rack 75 L 2500
Protective visor – 1 pc
Package – 1 pc
Operation Manual – 1 copy
Certificate – 1 copy

Agat-6-24

EAC certified product

does not require registration in the State Commission for Radio Frequencies (SCRF)

Detector is automatic one-position radar intended for detection of a person movement (crossing security area); it shall be used as security alarm equipment at open sites or indoors.

Features

- Detector is developed according to "DigiLon™" concept.

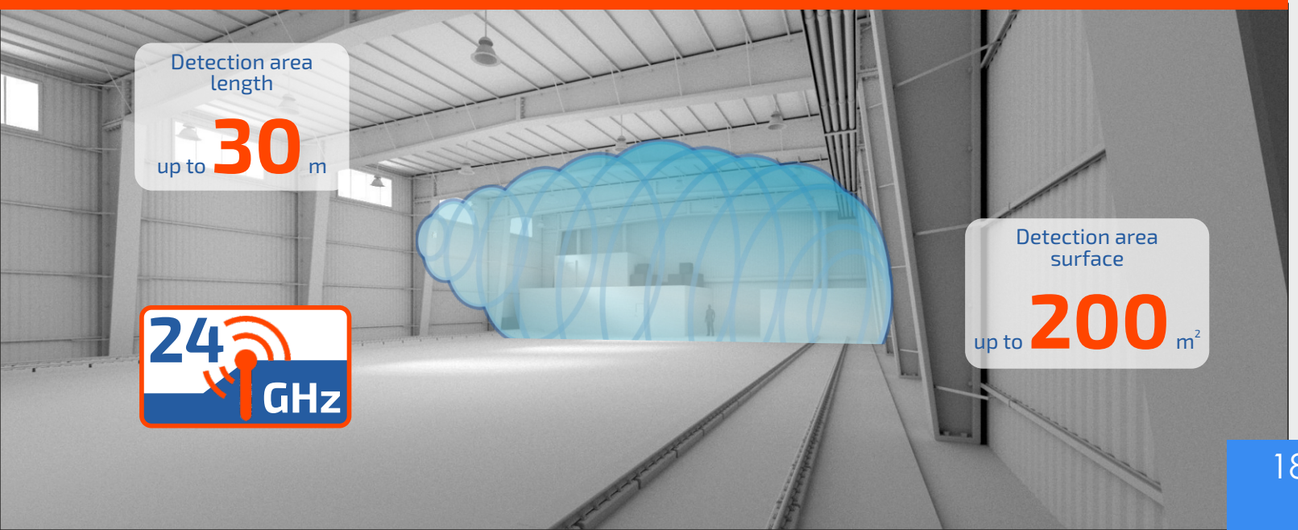
"DigiLon™" technology uses fully digital approach, all the object data is converted into a digital code of high resolution, and processed in digital form by micro-controller.

- Detector shapes alarm notification by opening output circuit of the signaling loop «SL» (normally closed), as well as transmits message via RS-485 interface to PC in the following circumstances:

- when person is moving in DA;

- in the event of acts of sabotage – radiation shielding with the use of radar-reflecting or radar-absorbing materials in the nearest zone or effect of masking radiation.

One-position detectors «Agat-6-24» form part of the engineering and technical security systems of «MURENA» Series



- Detector ensures detection (differentiated with respect to range) of a person moving either «bending down» and «standing» in DA, that is conditionally divided into 1-12 subareas, each 2.5 m long, and issues alarm message via RS-485 interface together with indication of respective subarea. Displaying of alarm message for two adjacent subareas if trespasser is on the border of subareas is allowed.

- Setup program for OS Windows is delivered free of charge, and can be installed on any laptop.

- Detector shapes error notification by opening output circuit of the signaling loop «SL», as well as transmits message via RS-485 interface until this failure is removed, but not less than 30 s, in the following cases:

- failure of detector unit;

- power decrease below 8.5±0.5 V;

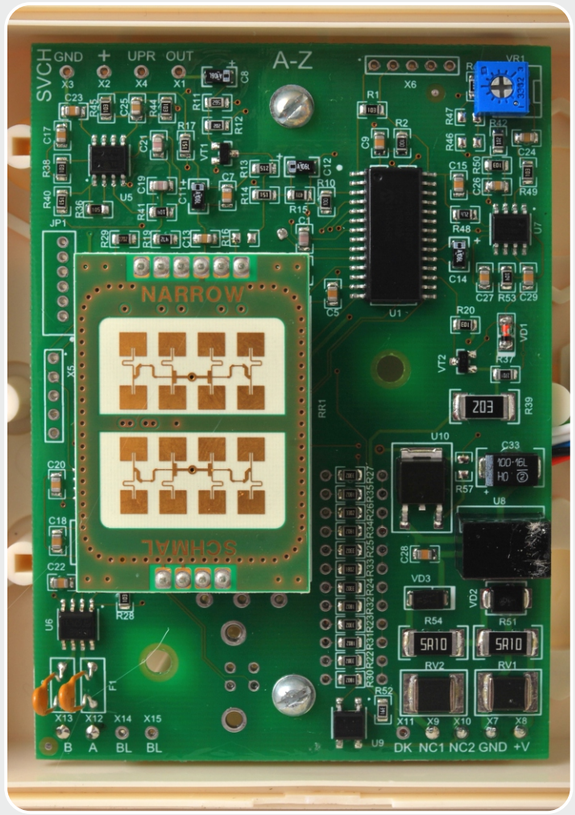
- shielding of detector unit with the use of radar-reflecting or radar-absorbing materials.

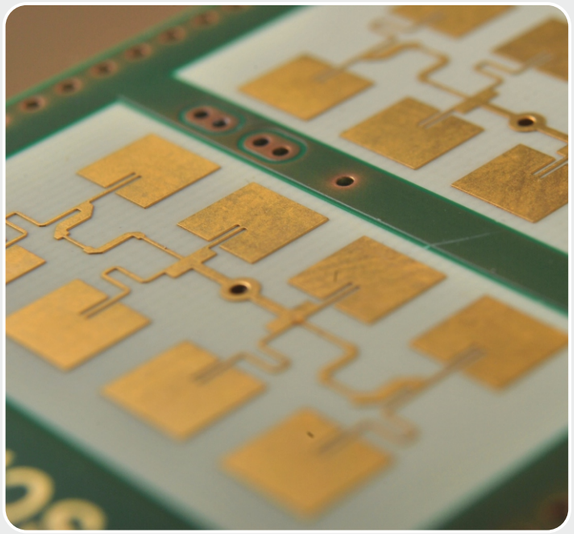
- RS-485 interface allows for combining detectors into a single network along with assignment of a unique address to each set.

Specifications

Operating frequency	24.15±0.1 GHz
Detection area (DA) length	up to 30 m
Maximum width of DA	18 m, maximum
Maximum height of DA	12 m, minimum
Range of detectable rates	from 0.3 to 10.0 m/s
Range of operating supply voltages	from 9 to 36 V
Consumption current at operating supply voltage of 24 V	50 mA, maximum

Antenna unit of one-position detector Agat-6-24





Delivery set

Transceiver unit – 1 pc
Installation kit – 1 pc
Interface Converter «URS-230» – 1 pc
Software on CD – 1 pc
Package – 1 pc
Operation Manual – 1 copy
Certificate – 1 copy

Agat 6M

EAC
certified product

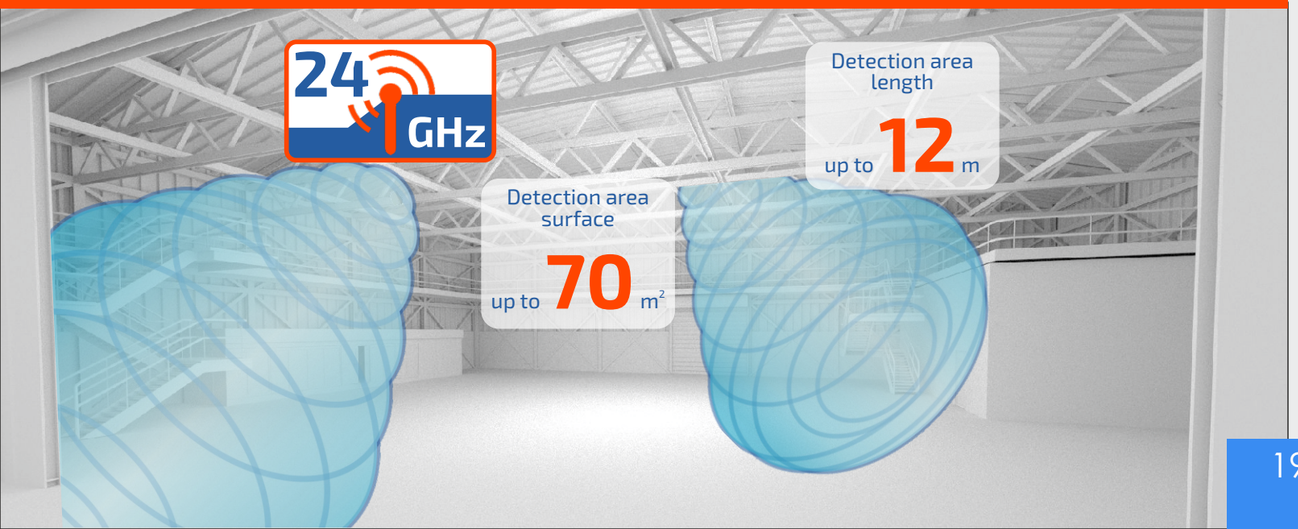
does not require registration in the State Commission for Radio Frequencies (SCRF)

Space violation automatic one-position detector ensures detection of a person crossing the protected space. General application: protection of indoor areas, warehouses, premises, access roads, gates, etc.

Features

- Detector is intended for intrusion detection in secure facility or its part, as well as for creating alarm notification by opening the actuating relay contacts.
- Detector shall be operated indoors, including if intense forced or natural ventilation is available (in warehouses, hangars, etc.). and allows for shielding with the use of materials transmitting radio waves (textile, wood boards). It is allowed to use this detector outdoors in case of installation under shelter or visor.
- Adjustment of the detection area size is provided.
- Detector shapes notification by means of opening output circuit with open control panel cover.

One-position space violation detectors «Agat-6M» form part of the engineering and technical security systems of «MURENA» Series

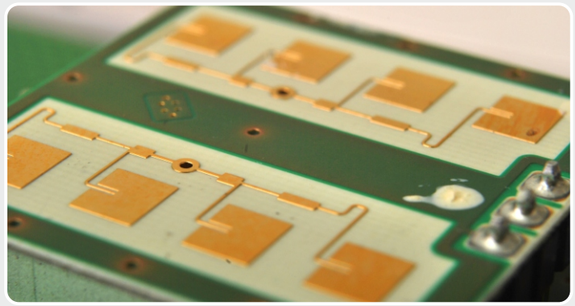


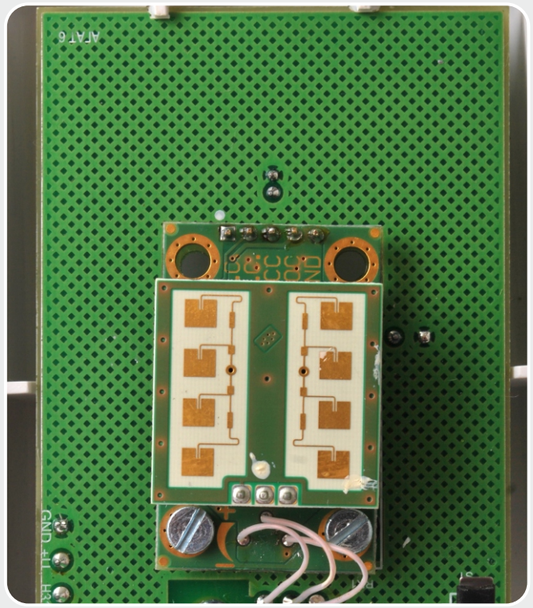
- Detector is powered from DC source with a rated voltage from 12 to 24 V at ripple amplitude of not less than 0.3 V
- Detector is resistant to the following disturbances:
  - movement of a single small animals not bigger than a cat or birds in DA at a distance of more than 2 m from detector;
  - lightning pulses with a peak value of induced current of 50 A, maximum;
  - short-term person movement to a distance of not greater than 0.2 m;
  - radiation of VHF radio set within the range from 150 to 175 MHz with power up to 40 W to a distance of not less than two meters.
- Detector is resistant to the following disturbances as per GOST R 50009-2000 and GOST R 51699-2000:
  - pulse jamming in power supply circuits and alarm loop;
  - conducted disturbance induced by radio-frequency electromagnetic fields;
  - radio-frequency electromagnetic fields;
  - electrostatic discharges.
- Detector has dust- and drip-proof structural design.
- Parallel mounting of several detectors is allowed; at that distance between them should not be less than two meters.

Specifications

Operating frequency	24.15±0.1 GHz
Detection area length	12 m, minimum
Maximum surface of detection area	70 m, minimum
Maximum width of detection area	4 m, minimum
Range of detectable rates	from 0.3 to 5.0 m/s
Range of operating supply voltages	from 10 to 30 V
Consumption current at operating supply voltage of 12 V	70 mA, maximum
Overall dimensions of detector, maximum	105x65x45 mm

Antenna unit of one-position detector Agat-6M





Delivery set
Transceiver – 1 pc
Power supply unit «Radiy-BP» – 1 pc *
Visor – 1 pc *
Wall plug 5x30 – 2 pcs
Wood screw 1-3x30 GOST 1145-80 – 2 pcs
Package – 1 pc
Operation Manual – 1 copy
Certificate – 1 copy

** – optionally*

PAUTINA

fence security complex

EAC certified product

The complex is intended for detection of climbing over, crushing, and deformation attempts of any fencing structures (window guards, shutters, doors, gates, fencing sections, etc.) Upon vibration detection of a window guard (or any other structure), the point vibration sensor (**PVS**) starts transmitting alarm signal. The signal processing unit (**SPU**) determines input No. and number of **PVS** in alarm state. Message about such event is transmitted to the guard console computer via **RS-485** interface.

Operating principle

The four-channel signal processing unit maintains control of **PVSs** attached to fencing. **From 1 to 12** **PVSs** are connected to each channel.

The complex ensures joint operation of **up to 48 PVSs** installed in **4** channels (**12** sensors per each channel), as well as graded reception of alarm messages from each **PVS.** Each **PVS** has its own private address in one channel.

One point vibration sensor shall be installed in one section of meshwire fencing of «Makhaon» type

surface of security area for one PVS is		signal processing unit	protected area by one complex is
4 m²	**12** PVSs per one channel	**4** channels	**192 m²**

Delivery set: notification collection and transmission system Murena-Orion, signal processing unit (SPU), point vibration sensors (PVS) (which amount shall be determined by Buyer), mounting kit, SW «Umirs Security Tools»

Zenit-Arena Stadium, Saint Petersburg:
perimeter - 7 km, 15 signal processing units (SPU), 144 video cameras, more than 700 point vibration sensors (PVS)

Features of the Complex

Point vibration sensor (**PVS**) is made based on accelerometer.

All information received from **PVS** is analyzed by microprocessor and transferred to data collection system via **RS-485** interface. Data collection system can be made based on PC with installed **SW «Umirs Security Tools»**. The complex is compatible with any data collection system operating with voltage free outputs.

In the event of crushing and deformation attempts of protected structure, the complex shapes alarm signal of not less than 2 s long by opening voltage free outputs of respective channel. Alongside with opening relay contacts, alarm signal is transmitted via **RS-485** interface together with indication of triggered sensor channel and address.

The complex shapes failure notification until this failure is removed by opening voltage free outputs of respective channel, as well as via **RS-485** interface.

alarm system loop cable rupture

sensor opening and position changing

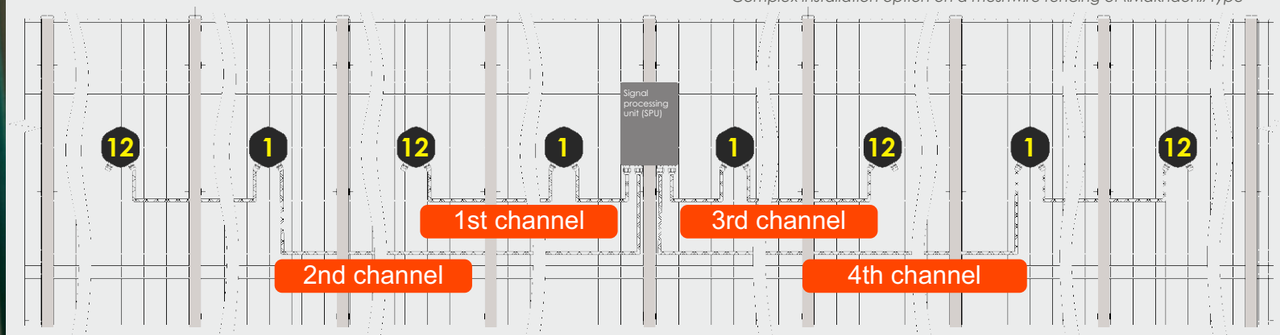
alarm system loop cable short-circuit

supply voltage drop down to a value of 9±0.5 V

sensor failure (tripping)

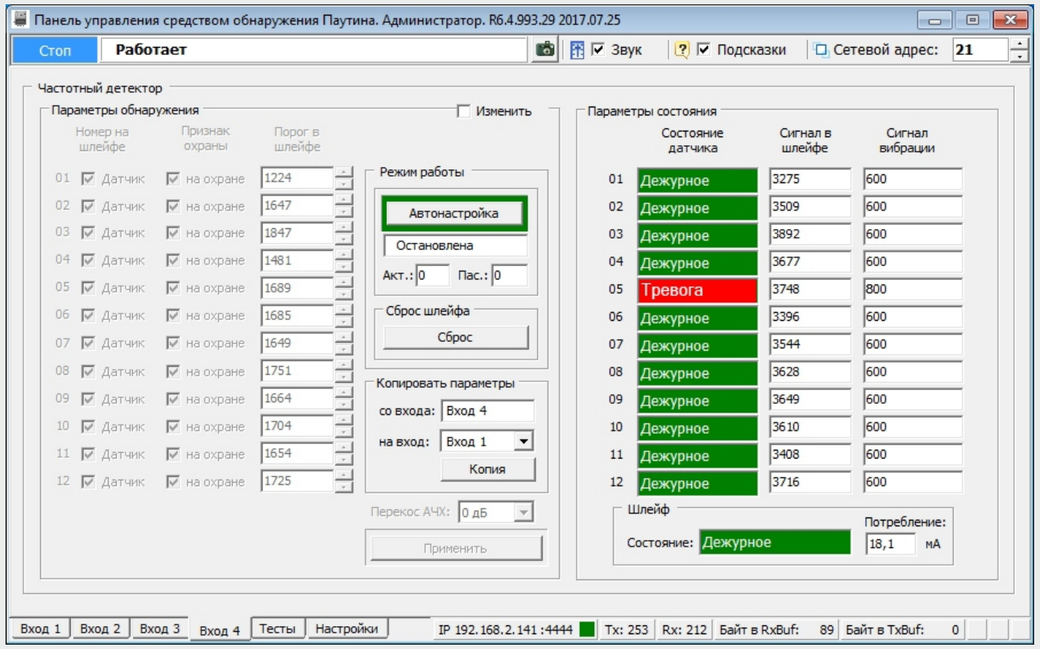
signal processing unit failure

Complex installation option on a meshwire fencing of «Makhaon» type



Vibration detection equipment

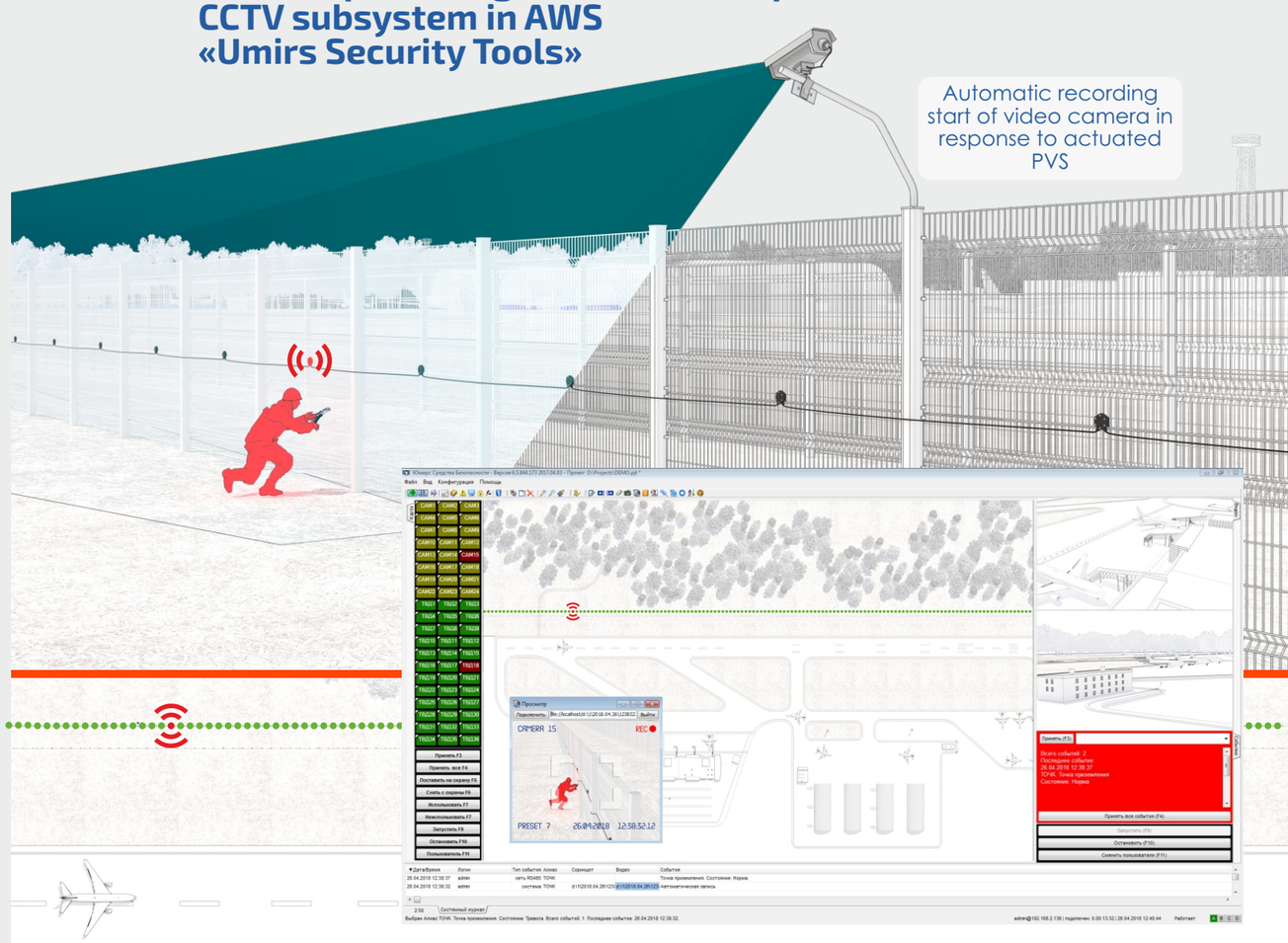
Setup window of the complex «Pautina» SPU loops

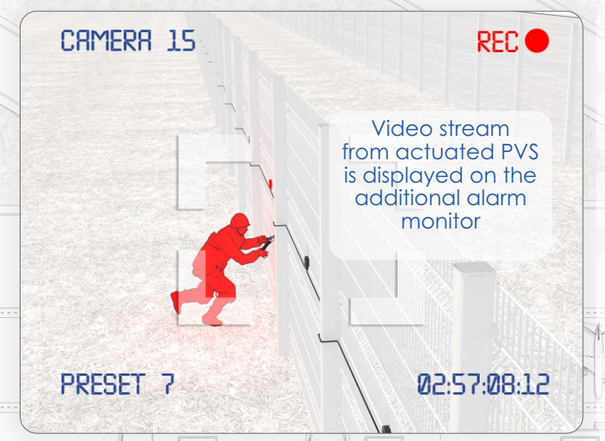


Complex installation option on window guards

Networking of up to **250** complexes is possible

The Complex integration with the perimeter CCTV subsystem in AWS «Umirs Security Tools»





Automatic save of alarm event screenshots and 10 s long videos to AWS log

Four video streams from cameras can be displayed in separate windows at the same time

Manual control of any selected video camera is possible at the operator's AWS

Any map of the object of protection can be additionally loaded in JPEG format at the operator's AWS. This map becomes interactive

Various graphic and color schemes for displaying status of sensors on the plan of the object of protection.

PANTERA

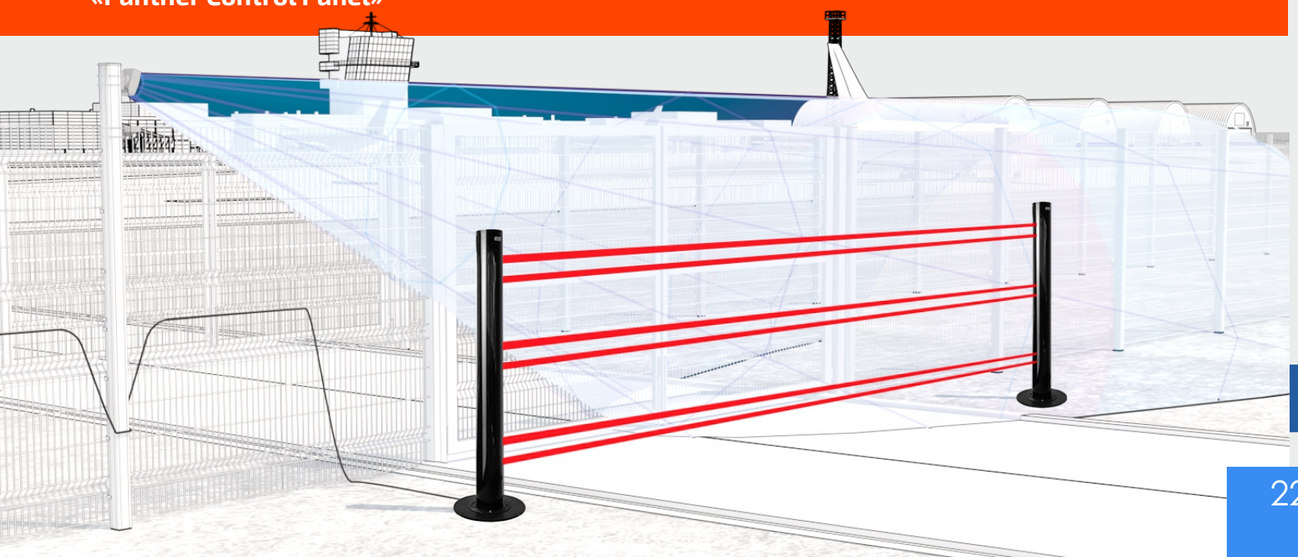
EAC
certified product

Detection equipment «Pantera» is intended for protection of perimeter sections up to 100 m long. Simple and beautiful appearance of its structure allows installation of this set on the facade lawn of any government buildings or country retreats, and/or Russian Mission abroad.

Infrared and vibration channel

Two physical intruder detection approaches are implemented in the article: infrared (active) and vibration. Input for voltage free output connection of additional security equipment of any operating principle is also provided. Simultaneous use of various intruder detection approaches significantly increases the performance reliability and decreases the probability of an intruder entering a secured facility.

Delivery set: transmitter unit, receiver unit, triboelectric sensor cable, mounting kit, software «Panther Control Panel»



Combined detection equipment
Umirs

Specifications

Number of infrared rays	6
Detection area length	up to 100 m
Length of triboelectric sensor cables to be connected to the article	2 flanks, each 250 m long
Length adjustment of beam breaking for supplying the signal «ALARM»	from 50 to 500 m/s
Range of operating supply voltages	from 9 to 30 V
Heating supply voltage	24±0.5 V
Total current consumption (w/o heating modules), maximum	250 mA
Total current consumption of heating modules at (24±0.5) V, maximum	1400 mA
Shell structure protection rating	IP54
Overall dimensions of the article unit, maximum	Ø225x1500 mm
Weight of packaged article, maximum	25 kg
Article average life	8 years

Infrared channel has **6 beams** grouped in pairs. The radiator unit has two inputs for connection of a triboelectric sensor cable **up to 250 m** long.

Transmitter and receiver units of the article are equipped with heating modules designed to avoid lens fogging and internal condensate formation.

RS-485 interface is used for setting detection parameters. This interface is also used for transmitting alarm information to the operator's console.

The operator's console can be made based on PC with installed **SW «Panther Control Panel».** The article is compatible with any data collection system operating with voltage free outputs.

blockable line length
infrared band - **100 m**
vibration - **two** flanks, each **250 m** long

The article forms part of the engineering and technical security systems of «MURENA» Series

BRK-P

rapidly deployable complex

EAC certified product

operative creation of perimeter protection of stationary, temporary and mobile facilities without laying wire lines

- Length of protected perimeter – **up to 2000 m**.
- Battery – **lithium cell.**
- Battery life – **up to 20,000 hours**.
- Operating temperature range from **-40°C to +50°C.**
- Mounting kit for ground installation is included.

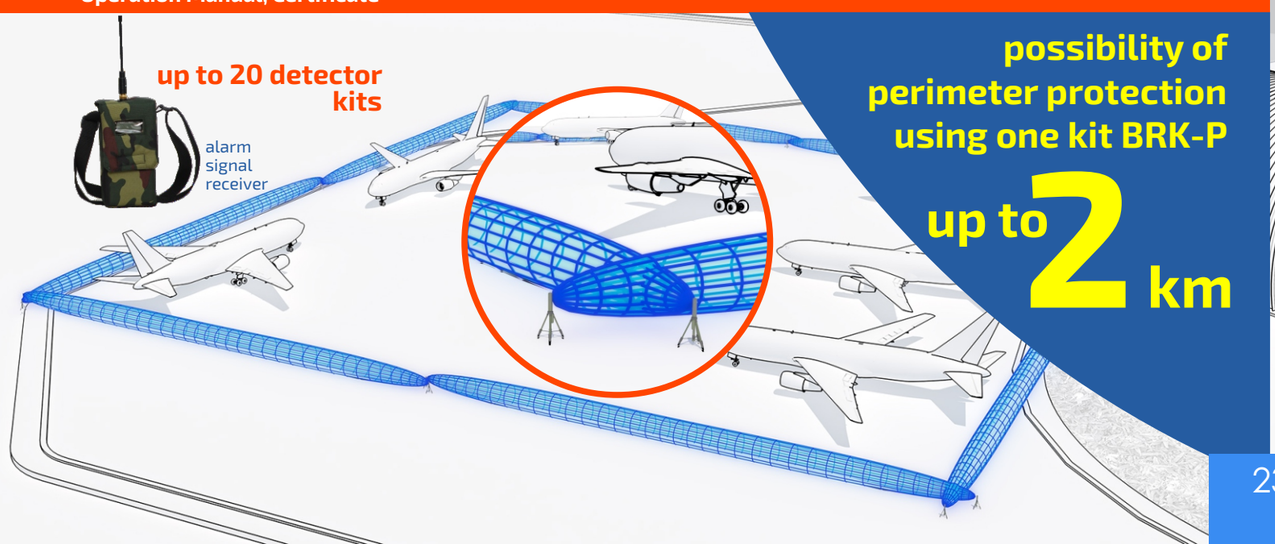
Kit BRK-RL-P

two-position radio-wave detector complete with two self-contained power supply sources, tripods, carrying bag, and integrated alarm transmitter of 433 MHz band

Basic specifications:

- detector operating frequency – **10.5 GHz**;
- parameters of detection area:
  - range - **up to 100 m**;
  - detection area width (at max. range) - **2 m**;
  - detection area height (at max. range) - **1.6 m**;
- kit weight - **3 kg**;

The Complex BRK-P composition: kit BRK-RL-P, kit BRK-IK-P, kit of alarm signal receiver, spare tools and accessories kit, antenna kit, interface set with PC, key, backpack «Cheget-55K camouflage», package, Operation Manual, Certificate



possibility of perimeter protection using one kit BRK-P

up to 2 km

Alarm signal receiver (ASR)

Basic specifications:

- registration **from 1 to 20** detector kits;
- ensures shaping of notifications: when receiving alarm signals with detector number indication and sound signal output;
- reception range of alarm signals – **up to 850 m**;
- reception range of alarm signals using external antenna - **up to 1500 m**;
- weight of alarm signal receiver (ASR) - **1 kg, maximum**.

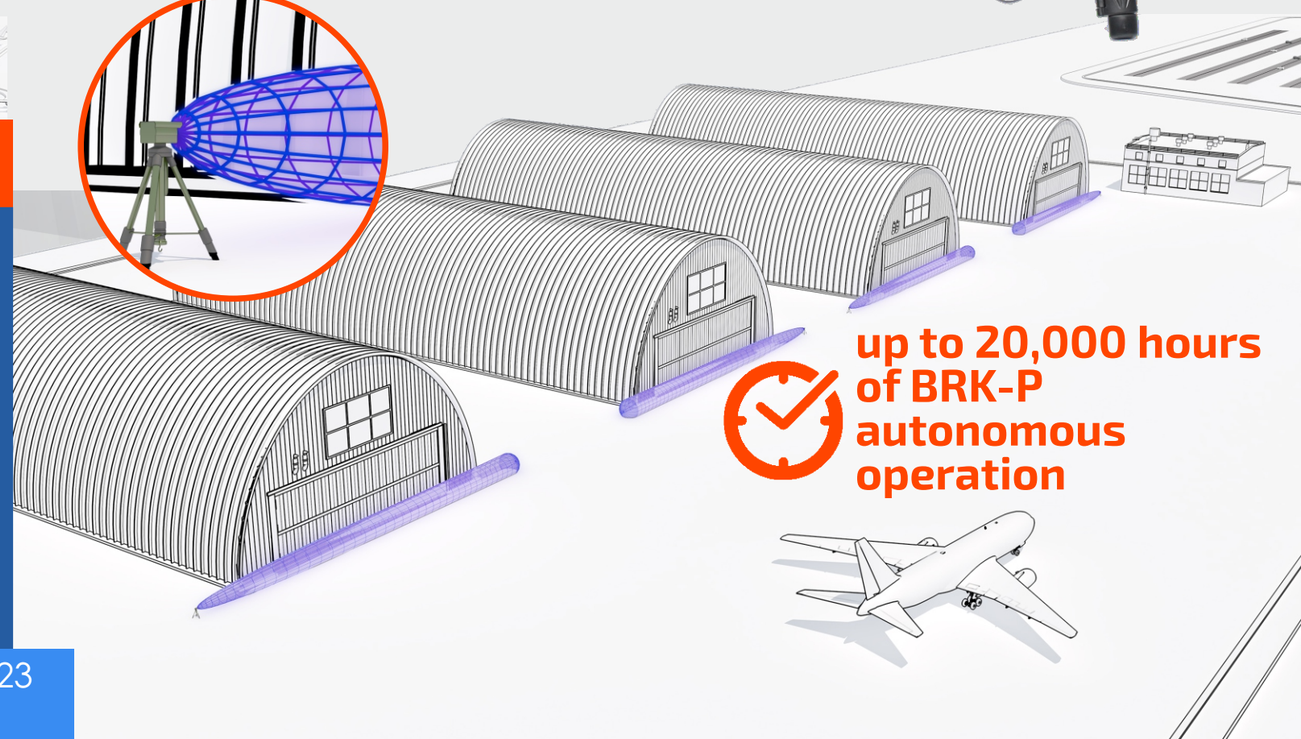
external antenna Anli a200mu

Kit BRK-IK-P

Infrared detector complete with power supply source, tripode, and carrying bag. Self-powered one-position IR passive detector provided with integrated alarm signal transmitter of 433 MHz band;

Basic specifications:

- battery – lithium cell
- parameters of detection area:
  - range - **up to 100 m**;
  - detection area width (at max. range) - **3 m**;
  - detection area height (at max. range) - **2 m**;
- weight of kit BRK-IK-P - **3 kg**.



up to 20,000 hours of BRK-P autonomous operation

BRK-868

rapidly deployable complex

EAC certified product

operative creation of perimeter protection of stationary, temporary and mobile facilities without laying wire lines

- Length of protected perimeter – **up to 2000 m**.
- Battery – **lithium cell**.
- Battery life – **up to 20,000 hours**.
- Operating temperature range from **-40° to +50°C**.
- Mounting kit for ground installation is included.

Kit BRK-RL

two-position radio-wave detector complete with two self-contained power supply sources, tripods, carrying bag, and integrated alarm transmitter of 868 MHz band

Basic specifications:

- detector operating frequency – **24 GHz**;
- parameters of detection area:
  - range - **up to 100 m**;
  - detection area width (at max. range) - **2 m**;
  - detection area height (at max. range) - **1.8 m**;
- kit weight - **5 kg;**

The Complex BRK-868 composition: kit BRK-RL, kit BRK-IK, kit of alarm signal receiver, control console, spare tools and accessories kit, backpack «Cheget-55K camouflage», package, Operation Manual, Certificate

Kit BRK-IK

Infrared detector complete with power supply source, tripode, and carrying bag.
Self-powered one-position IR passive detector provided with integrated alarm signal transmitter of 868 MHz band;

Basic specifications:

- battery – lithium cell
- parameters of detection area:
  - range - **up to 100 m**;
  - detection area width (at max. range) - **3 m**;
  - detection area height (at max. range) - **2 m**;
- weight of kit BRK-IK - **3 kg**.

Alarm signal receiver

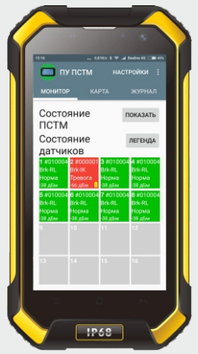
ensures message reception from detectors via radio channel of 868 MHz, and transmission of respective messages via Bluetooth radio channel to control console (CC)

Basic specifications:

- registration **from 1 to 25** detector kits;
- reception range of alarm signals from detectors – **up to 1000 m**;
- weight of alarm signal receiver (ASR) - **6 kg**.

Control console

displays all states of detectors on the screen



Basic specifications:

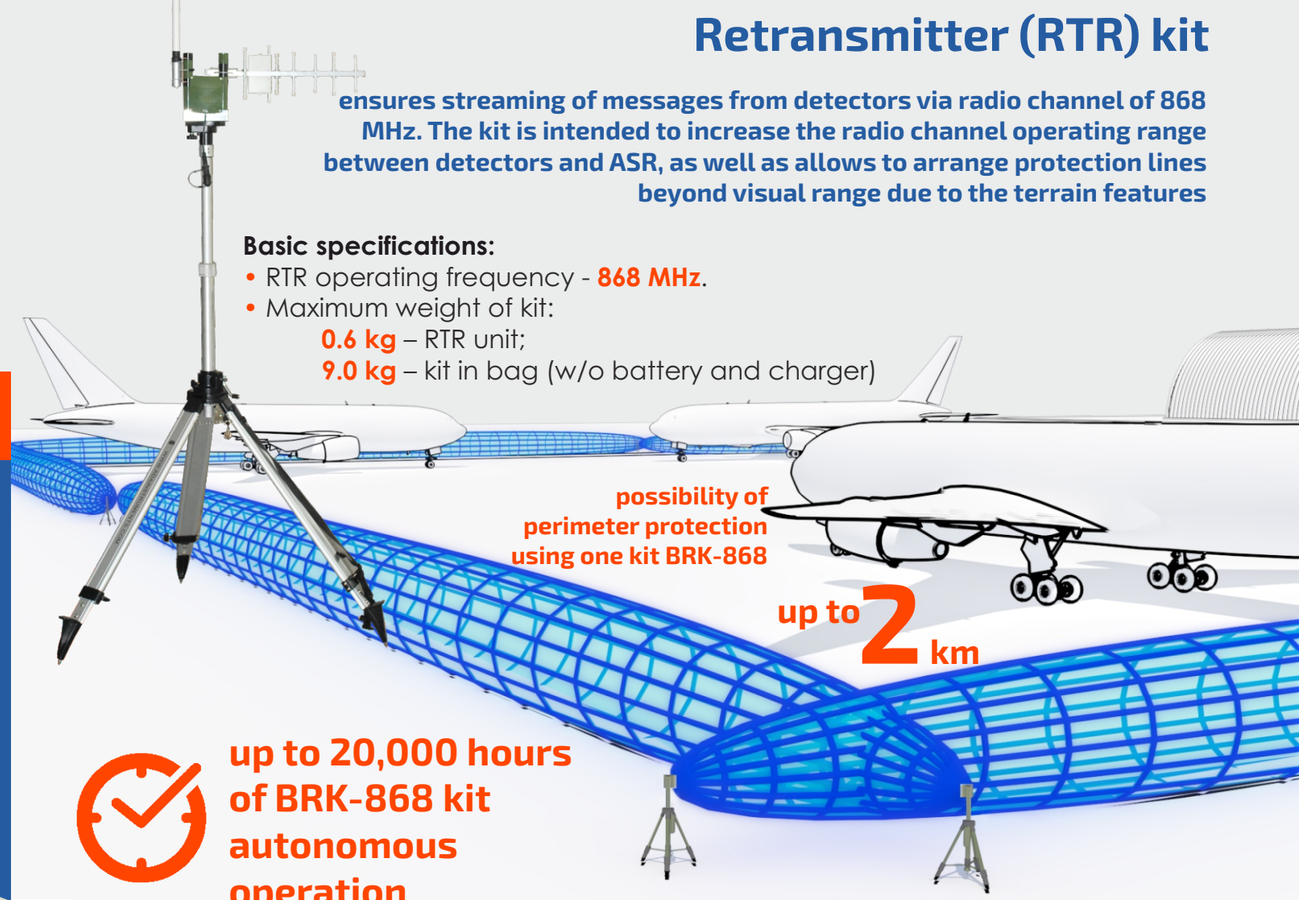
- displaying **from 1 to 25** detector kits;
- reception range of alarm signals from ASR – **up to 200 m**;
- operating frequency (Bluetooth) - **2.4 GHz**;
- weight of control console - **0.2 kg**.

Retransmitter (RTR) kit

ensures streaming of messages from detectors via radio channel of 868 MHz. The kit is intended to increase the radio channel operating range between detectors and ASR, as well as allows to arrange protection lines beyond visual range due to the terrain features

Basic specifications:

- RTR operating frequency - **868 MHz**.
- Maximum weight of kit:
  - **0.6 kg** – RTR unit;
  - **9.0 kg** – kit in bag (w/o battery and charger)



up to 20,000 hours of BRK-868 kit autonomous operation

PARALLEL

detector of intrusion

EAC certified product

Wire-wave intruder detection equipment is intended for protection of perimeter line along the top of concrete/brick obstacles or metal mesh. It can be used on sites with a complex perimeter configuration both independently and as additional protection line.

Purpose

- Detector creates a continuous linearly extended security area, and ensures blocking of the line section passing along the top of artificial obstacles made of metal mesh, concrete or bricks (visor-type employment option), as well as directly over ground surface (surface-type option).
- Security area is created between the linear section upper and lower wires fastened on dielectric consoles (racks). Wires are connected to the detector units – TX and RX, which are installed on opposite sides of the protected site. Consoles are fastened to fencing or building walls, racks are mounted on the top of the ground.

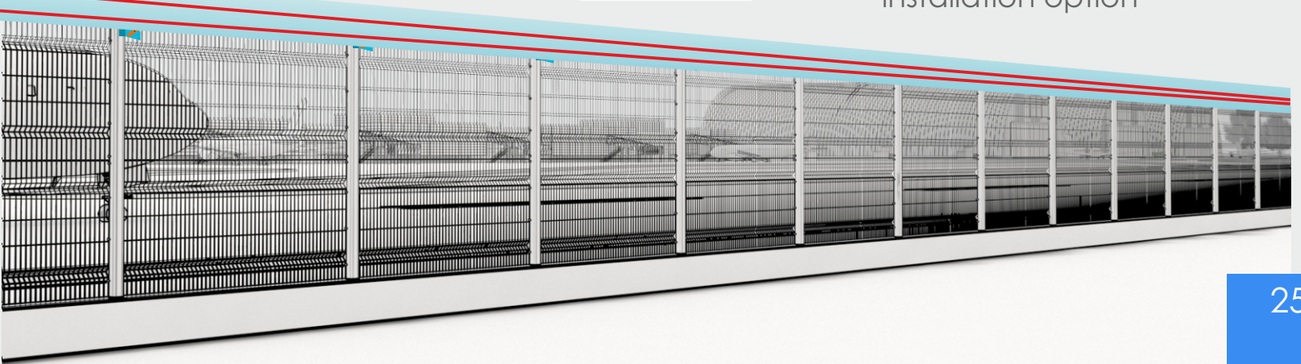
Wire-wave linear detector «Parallel» forms part of the engineering and technical security systems of «MURENA» series

Detection area length up to **250** m

Detection area width up to **2** m

Detection area height up to **0,7** m

VISOR-TYPE installation option



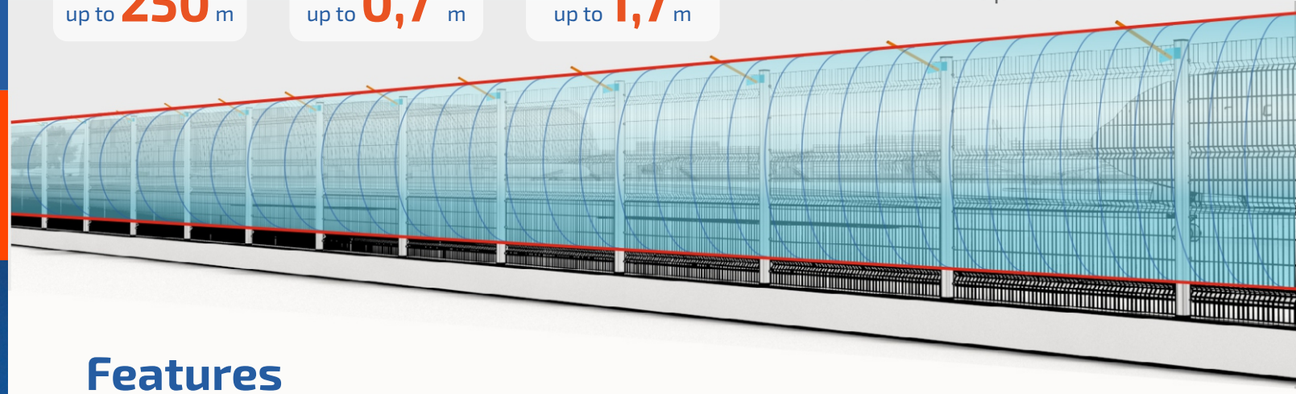
Wire-wave detection equipment
Umirs

Detection area length up to **250** m

Detection area width up to **0,7** m

Detection area height up to **1,7** m

SURFACE-TYPE installation option

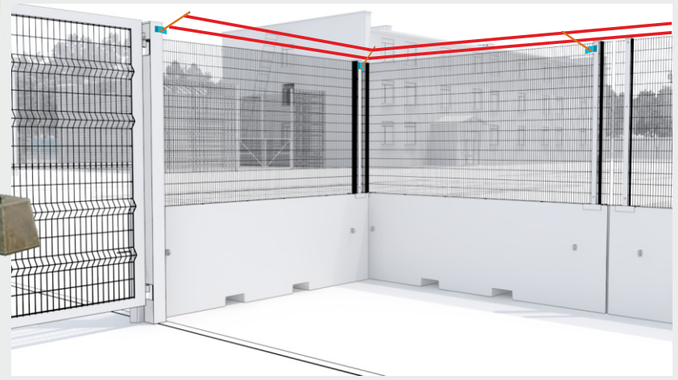


Features

- Narrow detection area.
- No straightness requirements for the protection line and topographical relief.
- Installation on unprepared sections is allowed.
- Automatic performance monitoring of units and linear section status.
- Low current consumption.
- Creation of continuous extended protection line is provided in case of piece-by-piece installation of detectors, without the need for laying any auxiliary power supply and signaling cables.
- Easy sensitivity setting without the use of special devices and tools.
- Steady operation in the presence of powerful electromagnetic fields and lightning discharge.

angle blocking on the outside of fencing

angle blocking on the inside of fencing



PORP-1
data room security device

EAC certified product

does not require registration in the State Commission for Radio Frequencies (SCRF)

It is intended for intrusion detection of unauthorized persons in secure facility and duty personnel alert by switching-on remote sound and light annunciators. "PORP-1" is a combined stand-alone device that combines the functions of a fire alarm control panel, security radio-wave space violation detector, and backup power supply source.

Scopes of application

gun rooms

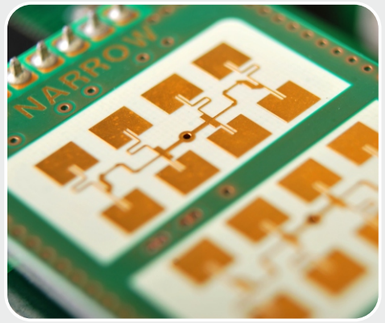
ammunition storage facilities

classified documentation storage rooms

- The kit includes TouchMemory reader used for authorized management of the device.

Data room security device «PORP-1» forms part of the engineering and technical security systems of «MURENA» Series

Detector types

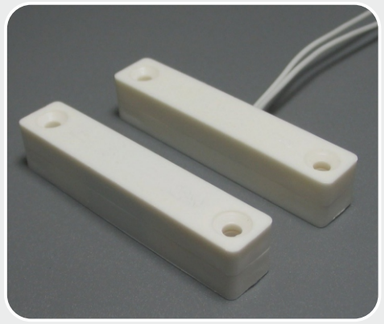


integrated microwave space violation detector

- Detection of a person movement indoors is provided by means of the wire-wave radio-wave detector embedded into the signal processing unit.

The detector sensitivity ensures issue of alarm notification when person is moving in the security area to a distance of not greater than 1 m.

Adjustment of the detector operating (detection) range and sensitivity from PC is provided.


magnetic contact security alarm detector

- Blocking of doorways and window openings, other construction and structural elements of buildings and installations in the event of opening or displacing, arrangement of the "trap" type devices at any objects, and issue of "Alarm" signal by opening the reed switch contacts.

infrared optoelectronic passive detector

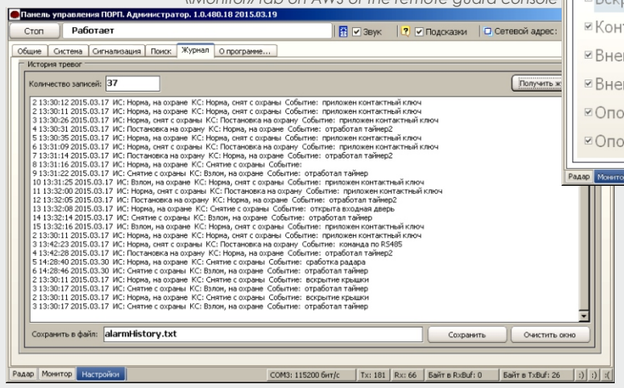
- Any types of detectors provided with alarm voltage free outputs can be connected to the device.

Two infrared optoelectronic passive detectors «SPLAV L50» may be connected. Detectors are intended for protection of long spans (perimeters) both under the outdoor conditions and indoors by issuing alarm notification when intruder crosses the linear detection area of up to 50 meters with a speed from 0.1 to 5 m/s.

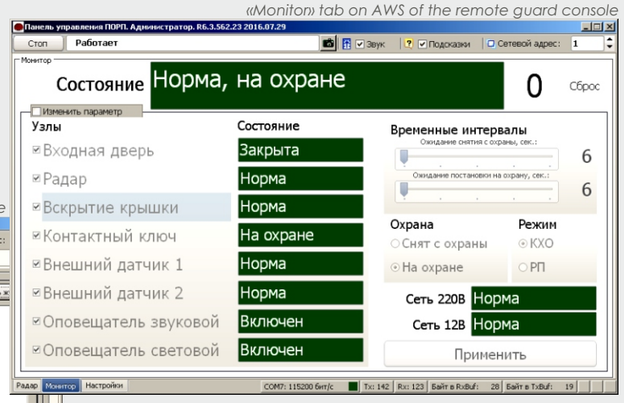
Operator's AWS

- The «Monitor» tab displays status of all devices (assemblies) connected to the signal processing unit, tension state of 12 V and 220 V mains, as well as overall condition of the unit itself.

«Monitor» tab on AWS of the remote guard console



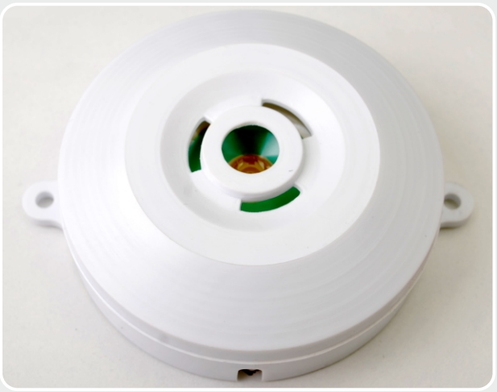
«Monitor» tab on AWS of the remote guard console



- Open the «Log» tab to view event history within the device operation period. The log «Alarm history» displays information stored in non-volatile memory; it can be used for detailed event analysis that took place during the device operation period.

Light and sound annunciators

light security fire alarm «Mayak-12-S»



sound security fire alarm «Mayak-12-3M2»

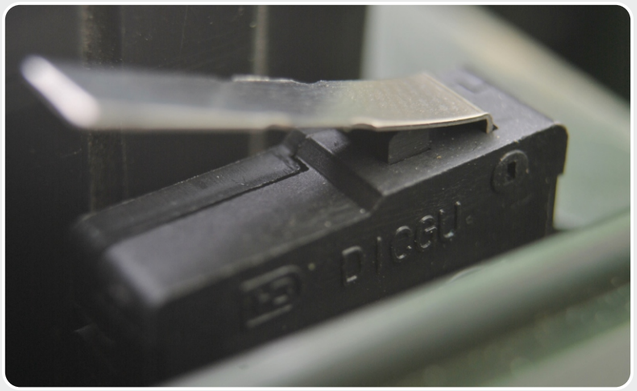
- Switching-on of light and sound annunciators, circuit opening and alarm notification issue on PC take place in the event of:

–movement of a person in the radio-wave detector security area ;

– opening or rupture of magnetic contact security alarm detector loop;

– opening of the signal processing unit cover;

– opening or rupture of the signaling loop circuits.



Detector actuating in the event of opening of the signal processing unit cover

Delivery set

Signal processing unit – 1 pc
Connection cable – 1 pc
Installation kit – 1 pc
USB/RS-485 interface converter – 1 pc *
Magnetic contact security alarm detector IO 102-2 PGS2.409.000 TU – 1 pc
Key switch DS 1990 KTH – 1 pc
Key DS 1990 A – 3 pcs
Light annunciator «Mayak» – 1 pc
Sound annunciator «Sviryel» – 1 pc
Polyvinyl chloride insulation wire ШВП 2x0.35
Software on CD
Package
Operation Manual – 1 copy
Certificate – 1 copy

* optionally

Backup power supply

- Lead-acid type BAT of 12 V rated voltage and capacity of 7 A-h is installed in the signal processing unit. Fully charged BAT provides operation of the device for not less than 36 h in stand-by mode (excluding auxiliary equipment powered from the device). Device ensures deep discharge protection of BAT.

Accumulator battery (BAT)

EAC certified product

FS-25M

LED lamp

LED lamp «FS-25M» is intended for permanent or temporary lighting of the perimeter security areas, additional illumination of TV camera surveillance areas, mood lighting of buildings, landscape sites and other objects.

Features

- The key feature of this lamp is a powerful light flux along with low power consumption, thus providing for application of this article to solve various tasks on illumination of objects.
- The lamp design ensures ingress protection rating IP 55 as per GOST 14254-2015 (rain and dust protection), and allows to install this lamp on a support from 50 to 80 mm in diameter.
- Hinged aligning joint spotlight ensures the lamp turning to an angle of up to 15° in two planes.
- Article average life – 5 years.

Provisions are made in the engineering and technical security systems of «MURENA» Series for automatic switching-on of spotlights SP4-220 upon alarm signal, in parallel with the nearest video camera recording start

Specifications

Operating voltage	187-242 V AC
Power consumption	25 V
Color temperature	5500 K
Luminous flux	2100 lm, minimum
Operating temperature range	-60°C...+65°C
Overall dimensions	Ø160x190
Net weight	1 kg, maximum

Delivery set

LED lamp – 1 pc
Clamp 1Λ 70-90-7H – 2 pc
Certificate – 1 copy

SP4-220

LED lamp

certified product

LED lamp «SP-220» is intended for permanent or temporary lighting of the perimeter security areas, additional illumination of TV camera surveillance areas, mood lighting of buildings, landscape sites and other objects.

Features

- The key difference of spotlight «SP4-220» from its analogs is low power consumption.
- The spotlight design ensures ingress protection rating IP 54 as per GOST 14254-96 (rain and dust protection), and allows to install this spotlight on the walls, fencing, as well as on a support from 50 to 90 mm in diameter.
- Hinged aligning joint ensures the spotlight turning to an angle of up to 15° in two planes.
- Article average life – 8 years.
- Warranty operating life is 18 months from the date of shipment from manufacturing facility.

Provisions are made in the engineering and technical security systems of «MURENA» Series for automatic switching-on of spotlights SP4-220 upon alarm signal, in parallel with the nearest video camera recording start

Specifications

Supply voltage	220 V
Current consumption	0.05 A, maximum
Overall dimensions	160x150x115 mm

Dependence of illumination at a point located on the line perpendicular to the LED matrix center, from the distance

Distance, m	Light intensity, lx
3	25
6	9
12	3.5
18	1.4
24	1.0
30	0.7
36	0.4
42	0.2

Delivery set

LED spotlight – 1 pc
Clamp 1Λ 70-90-7H – 1 pc
Nylon wall plug 6x40 – 4 pcs
Wood screw 3-4x40 – 4 pcs
Junction box – 1 pc
Operation Manual – 1 copy
Certificate – 1 copy

PIRS-1D

RS-485 interface repeater

certified product

R5-485 interface repeater «PIRS-1D» is intended for signal protection and amplification in the RS-485 interface line. Interface repeater allows to create or expand an existing network, connect detection equipment that do not have a common ground, as well as increase the drive distance.

Interface repeater is powered from DC source with a rated voltage from 9 to 60 V and ripple ratio of not less than 10% within the specified range.

Interface repeater detects information signal coming to the first or second port, and transmits the recovered signal through another port. The series connection of interface repeater allows to increase the RS-485 interface line the length up to 36 km.

Uzel-M

interface adapter

certified product

Interface adapter «UZEL-M» is intended to incorporate the device (detection equipment) that does not support «Murena» protocol in a set of complexes of «MURENA-KS» Series, as well as to display its current state.

Detection equipment can be connected to adapter by means of voltage free outputs, or via RS-485 interface. In addition to communication function, adapter performs the function of switching board and makes it possible to discard the junction box. The adapter maintains interaction with security equipment of «RADIY» Series via RS-485 interface.

AIM-12

analog interface converter

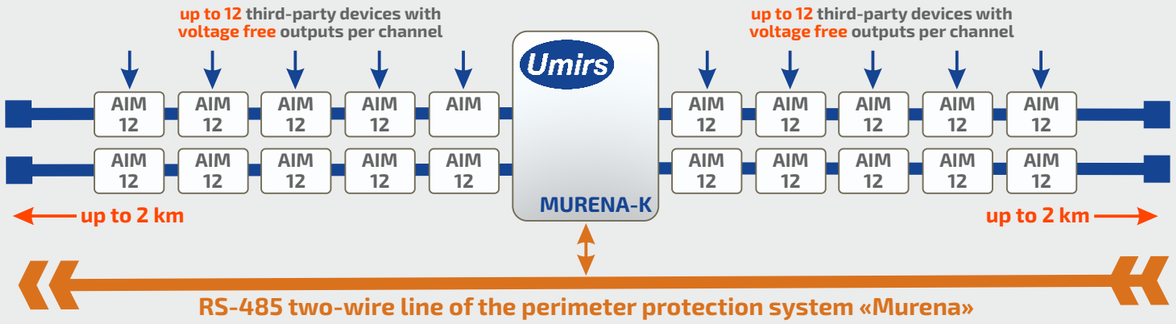
EAC certified product

Analog interface converter «AIM-12» is intended for connection of detecting devices (DD) to power-feeding/alarm loops of the signal processing unit «Murena-K» to ensure processing and subsequent transmission of alarm signals.

Features

- AIC analyzes the state of DD relay output and transmits information about its state through power-feeding/alarm loop.
- Address ranging from 1 to 12 is preassigned to each AIM-12. In case of alarm message AIM-12 transmits alarm message specifying the address.
- In case of unauthorized cover opening, AIM-12 transmits alarm message specifying the address.
- The design of AIM-12 provides ingress protection rating IP 55 as per GOST 14254-96 (protection against dust and rain), and allows AIM-12 mounting on a pole of 50 to 80 mm in diameter, as well as on flat surface (wall).
- Average product life – 8 years. Warranty life – 18 months from the date of shipment from the manufacturer.

Up to 12 detectors can be connected to one channel of the signal processing unit (SPU) «Murena-K» through the appropriate number of analogue interface converters (AIMs). Each AIM should be assigned its own address ranging from 1 to 12.



URS-230

USB/RS-485 interface converter

EAC certified product

USB/RS-485 interface converter «URS-230» is intended for conversion of USB interface signals into RS-485 two-wire trunk interface provided with galvanic isolation. URS-230 is powered from USB port of PC.

The device operating principle is based on USB interface signal conversion into interface RS-485 signals, and vice versa. Upon connection of the interface converter to PC and installation of SW, it is detected as additional COM port, and ensures data transfer in half-duplex mode.

Interface converter runs under OS Windows XP, 2003 Server, Vista, Windows 7, Windows 8, and Windows 10.

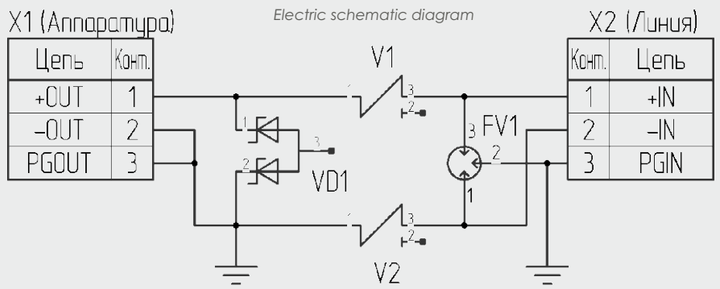
Interface converter is designed for continuous twenty-four-hour operation.

UZL-I

interface line safety device

EAC certified product

This device is intended for protection of devices in distributed networks for industrial automation equipment, RS-485 serial interface lines, signaling lines of control and measuring systems from pulse overvoltages (lightning discharge, electrostatic discharge, etc.) within the limits of 1÷3 of lightning protection zones (according to IEC 61312-1).



Murena-KS

technical security equipment complex

60 км
maximum extent
of secured facility perimeter

1000
of perimeter devices

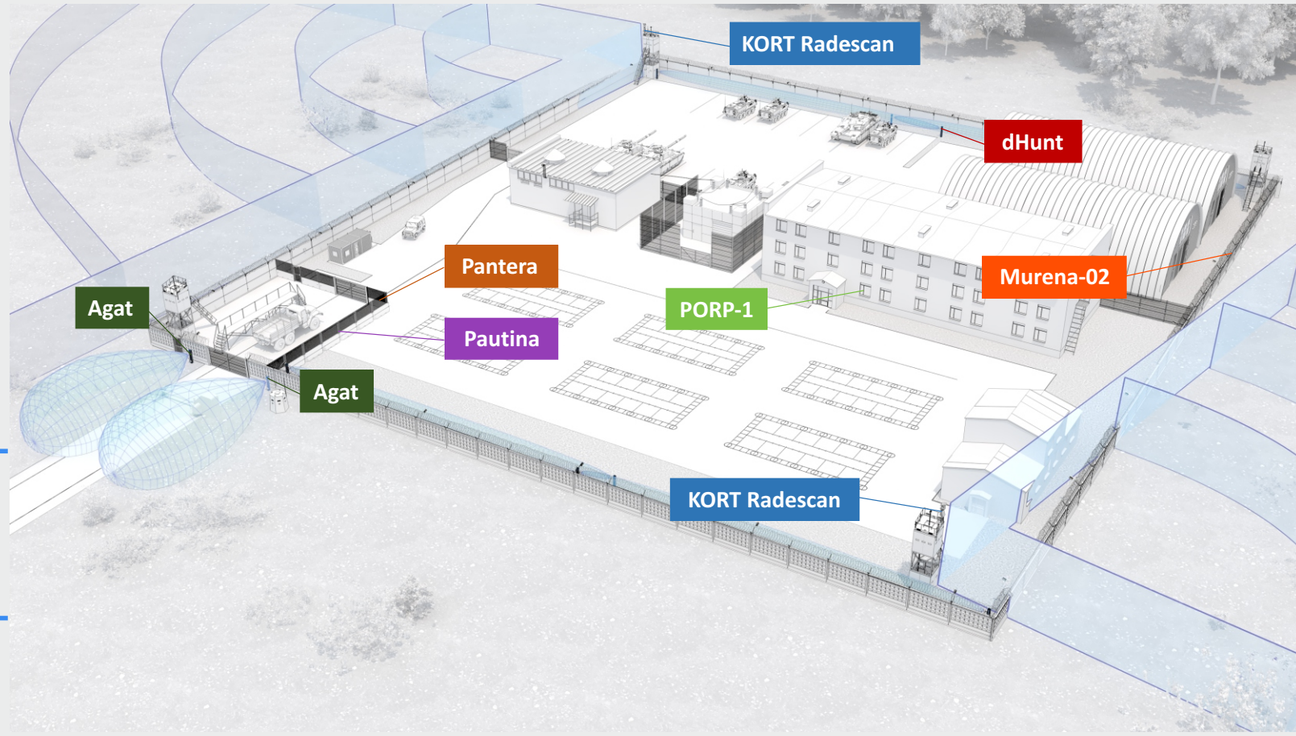
3 км
target detection range
(vehicle, cutter)

2,5 км
target detection range
(human)

1,5 км
target detection range
(UAV)

1 км
UAV soft kill range

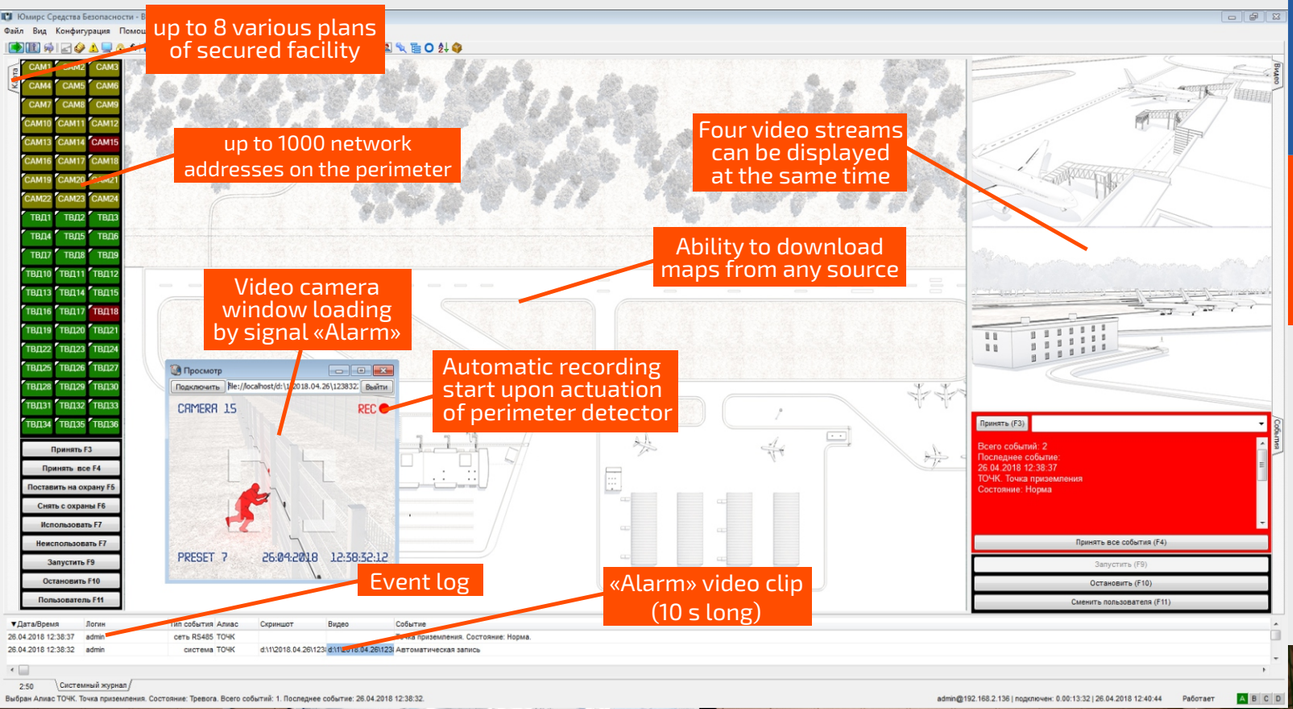
Example of facility equipment



Basic characteristics of the complex

Parameter	Значение
Maximum extent of secured facility perimeter (two flanks, 30 km each)	**60 км**
Maximum number of connected detectors in the local security system, pcs	**1024 (4x256)**
Number of independent protection border-lines	**8**
Retention period for full archived videos and data (automatic archiving), days/events	90/200000 for 1 TB data storage medium
Rate of Ethernet digital communication channel arranged at border-line via optical fiber cable, Mbps	1024
Rate of RS-485 digital communication channel arranged at border-line via cable FTP/UTP, kbps	115,2
Video information real-time display rate with simultaneous archiving with a resolution of 704×576 pixels in each video channel (16 video channels per server, maximum), frames/s	25
Maximum possible number of connected video cameras in the local security system, pcs	**unlimited number of IP cameras, servers and workstations**
Retention time for records in the event log, days	400 (depending on HDD capacity)
Operating temperature range of the set open-air installation components, °C	from minus 40 °C to plus 50 °C
Operating temperature range of the set components in stationary premises/structures, °C	from minus 10 °C to plus 50 °C
Design service life of the set, years	10

Operator's workstation of «Murena-KS» set



Umirs Комплекс технических средств охраны «Мурена-КС»

EAC certified product

Murena-Net
hub

«Murena-NET» hub is intended for information collection from the security equipment produced by UMIRS CJSC via two lines of RS-485 interface. While using regenerator «PIRS-1D», the maximum line length is 30 km. Up to 250 devices can be connected to one line. Switch "Murena-NET" is intended for integration of the security equipment produced by UMIRS CJSC into any data collection system.

Features

- The article provides for polling of up to **250** detectors via two independent lines of RS-485 interface, and issues «Alarm» notifications by opening respective output relay contacts when switching-over the detector to «Alarm» status.
- «**MURENA-NET**» operates from the mains of 220 V, and has its own backup power supply source of 12 V, which ensures autonomous operation of the hub for **3 hours** in the event of power failure. The hub shall be installed in a heated room with remoteness of the relay interface units for a length of not more than 5 m.
- It is possible to connect **up to 4 units** of relay interface to the hub main unit, each comprising **16 relays**.

Call of presets for IP cameras by alarm signal from the sensor. Short alarm video clips in the system log database (DB). Viewing alarm video clips directly from the log. Saving screenshots of the AWS desktop in the log by alarm signal from the sensor.

SW features

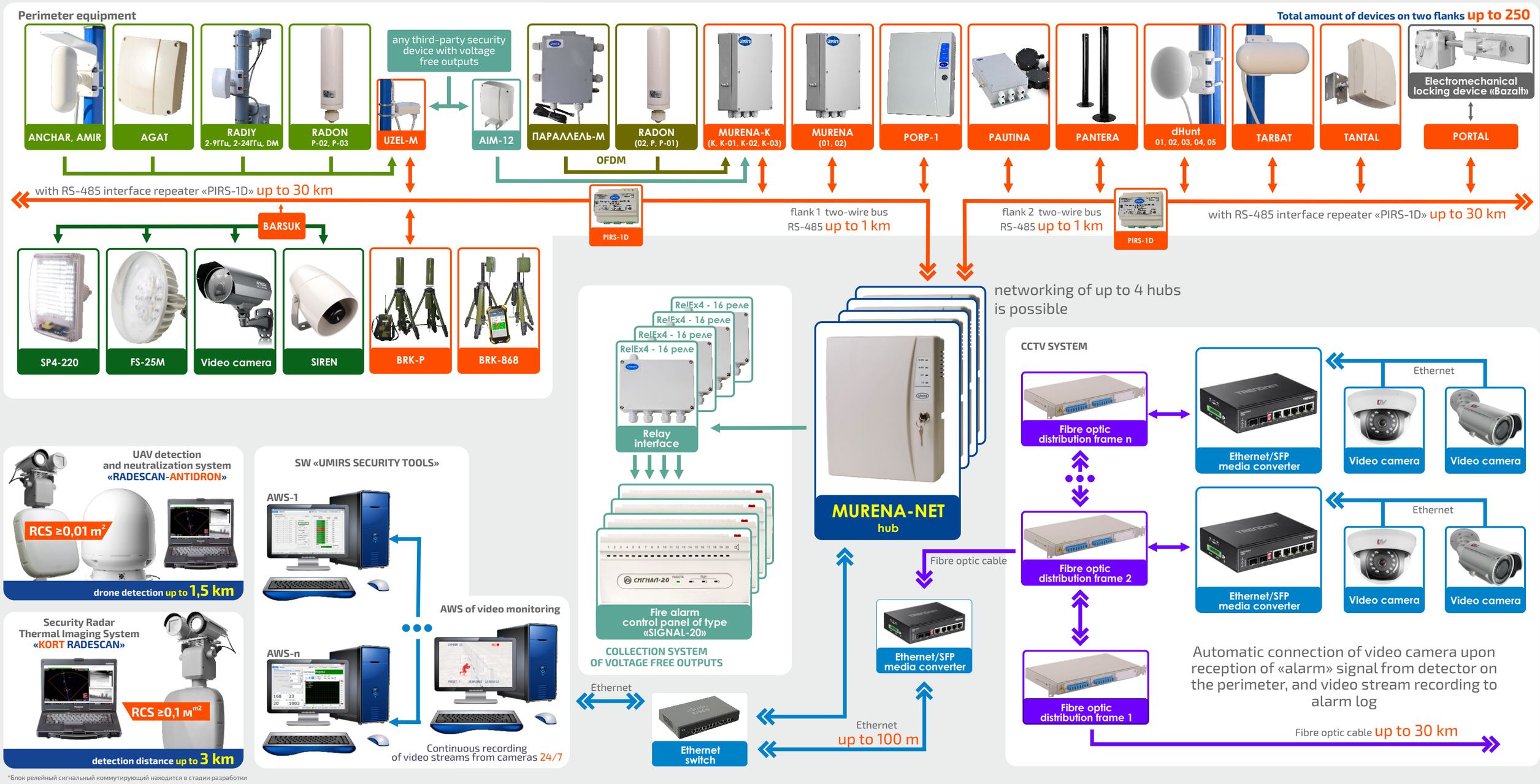
- Automatic connection of up to 4 video streams by alarm signal from the sensor.
- Various graphic and color schemes for displaying status of sensors on the plan of the object of protection.
- Interactive graphic map of the object of protection in JPEG format, loadable from file.
- Control of disarming/arming from map of the object of protection.
- Built-in graphic editor used for drawing detection areas of detectors on the object of protection map.
- Customizable sound and graphic alarm notifications with highlight of the last alarm zone on the object of protection map.
- Automated and manual control of relay contacts in detectors. Switching-on/off circuit and work schedule.
- Customizable distributed program user interface on different desktops of various monitors.
- Setup programs integrated into AWS used for remote configuration of detectors on the perimeter.
- Setting of various detectors at the same time without interruption of monitoring in AWS.
- It is possible to create a network structure based on one AWS using **4** «Murena-Net» hubs.

Umirs based on advanced technologies

www.umirs.ru

block diagram of the complex of technical means of protection

MURENA-KS



*Блок релейный сигнальный коммутирующий находится в стадии разработки

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