



WIRELESS COMBINED SECURITY DETECTOR «Pyrone-7-RK»



Installation Guide

1 Product Overview

The combined wireless security detector «Pyrone-7-RK» (hereinafter referred to as the detector) is designed to detect intrusion into the secured space and transmit notifications via a two-way 433.05-434.79 MHz radio channel in accordance with the protocol «Rielta-Contact-R».

The detector operates together with a control panel (hereinafter referred to as CP), which supports the «Rielta-Contact-R» wireless protocol.

The detector combines two independent detection channels:
 - passive audio acoustic channel (hereinafter referred to as the AC channel);
 - passive optical-electronic, infrared channel (hereinafter referred to as the IR channel).

The AC channel detects the destruction of objects made of glass.
 The IR channel detects intrusion into a secured area.

The detector is resistant to external light and radio interference, as well as interference from small animals: mice, rats, birds in cages at a distance of at least 2.5 m. The detector can be installed directly on the wall or in the corner of a room.

2 Special features

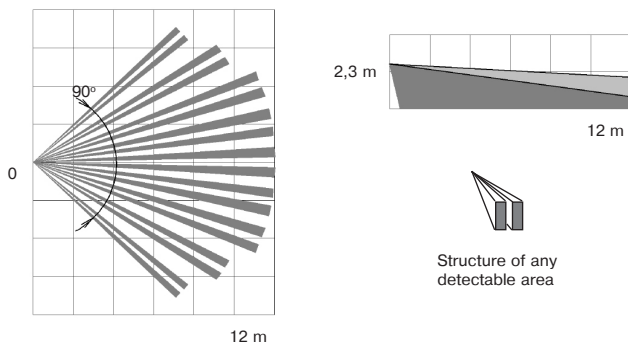
- Sensors: IR channel – double-area pyro receiver, AC channel – microphone.
- Spherical lens ensures high detection ability.
- Digital signal processing.
- Adjustable sensitivity modes for AC and IR channels.
- Protection against penetration of insects inside the device.

3 Technical characteristics

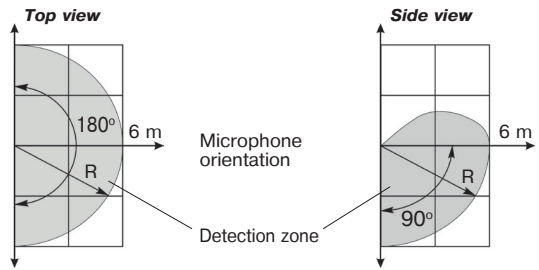
Table 1

Parameter	Value
IR channel detection area	12 x 10 m
Maximum detection range: - AC channel for glass area (R): more than 1 m ² less then 1 m ²	10 m 6 m 12 m
Sensitivity: - AK channel (HF): - level 3 (max)* - level 2 - level 1 - level 0 (min)	выбирается: 3 2 1 0
- IR channel: - no resistance to animals* - pet immunity up to 20 kg - pet immunity up to 40 kg	12 m 10 m 7 m
Minimum area of protected glass	0,1 m ²
Technical readiness time after switching on	не более 60 s
Protection class	IP30
Dimensions	109 x 57 x 44 mm
Weight	0,1 kg
Battery life with 60 s communication period	30 months
Average service life	8 years
Operational conditions	
Operating temperature range	-20 ... +55 °C
Relative humidity at +25 °C without condensation	98 %
* Set by default	

The IR channel detection zone diagram is shown in Picture 1, the AC channel detection diagram is shown in Picture 2.



Picture 1 – IR Channel Detection Area Diagram



Picture 2 – AC channel detection area diagram

4 Contents of the kit

Table 2

Item	Qty
Combined wireless security detector «Pyrone-7-RK»	1 pc
Lithium battery CR123A	1 pc*
Installation bracket	1 pc**
Combined wireless security detector «Pyrone-7-RK». Installation Guide	1 copy
* Installed	
** to be supplied upon a special request	

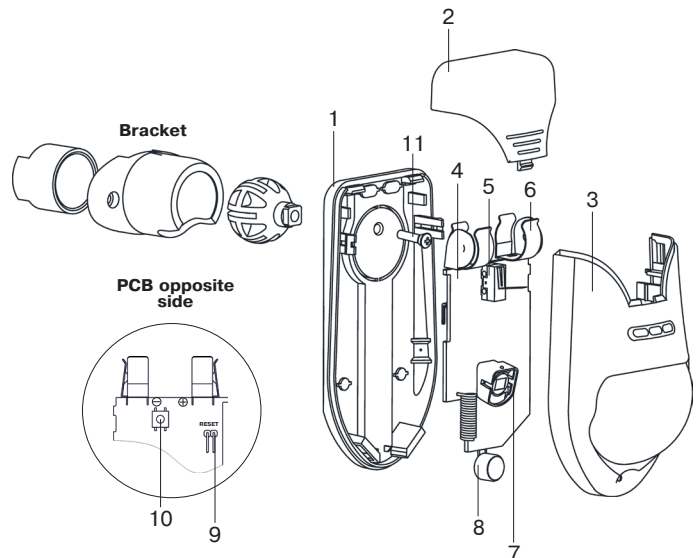
5 Design

The detector consists of a case base (1), a hatch (2), a case cover (3) with an installed printed circuit board (4).

The printed circuit board contains:

- microswitch/tamper sensor (5);
- battery holder (6);
- pyro receiver (7);
- microphone (8);
- RESET contacts (9);
- tamper switch (10).

When attaching the base to the bracket, use a screw (11).



Picture 3 – Design of the Detector

6 Indication

Table 3

Operation mode	Indication	Notes
Operating in Linking mode	The indicator turns green periodically	Request to register a device in the CP
Ending Linking Mode	Red indicator turns on for 1 s	
Indication «Loss of connection»	The indicator turns red 4 times	When transmitting data when there is no connection
«Identification» indication	Alternately turning on the green and red indicator	The corresponding command has been received from the CP
Working in «Testing» mode	Green indicator turns on and off with long intervals	
Communication quality assessment	See «Assessment of the connection quality with the control panel»	

Notifications are indicated in accordance with Table 4.

Table 4

Status	Indicator		CP status
	red	green	
Normal	OFF	OFF	No alarm
AC alarm	ON	ON	Alarm*
IR alarm	ON	OFF	Alarm*
Power drop down	-	-	Message on CP
Interference on 1st frequency	-	-	-
Interference on 2nd frequencies	-	ON	-

* The alarm indication turns off 15 minutes after closing the detector cover and turns on when it is opened or upon command from the control panel.

7 Commissioning

The «Linking» mode is activated for registering the detector in the control panel and exchanging service information. Place the battery in the holder or remove the insulator. Prepare the CP for registration in accordance with the instructions on the CP. The detector will periodically turn on the green indicator, which indicates that it is in the «Linking» mode. If there is no indication, close the RESET contacts (Pic. 3, item 9) and release. The detector stays in the «Linking» mode for 100 s. To resume the «Linking» mode, close the RESET contacts (9).

8 Finding a place for installation

When choosing a location for installing the detector, you should pay attention to the fact that the detection zone should not be blocked by opaque objects (cabinets, racks, curtains, indoor plants, etc.), as well as glass or mesh partitions. If possible, there should be no air conditioners, heaters, radiators, fans, etc. in the field of view of the detector. The detector should not be installed at a distance of more than 6 m from windows or other protected glass objects and the detector body should, if possible, be placed as far as possible from zone of possible intrusion. In case of monitoring a glazed surface with an area of more than 1 m², the maximum distance to the detector can be increased to 10 m.

The recommended installation height is 2.3 m from the floor level.

When installing the detector, it is not recommended to deviate its position from the vertical by more than 2° in order to exclude false alarms from pets.

9 Assessment of the connection quality with the Control Panel

To confirm the possibility of using the detector in the selected location, it is necessary to remove the hatch piece (2), after that the detector will display the quality of radio communication with the control panel by lighting the indicators in accordance with table. 5, then it switches to «Test» mode.

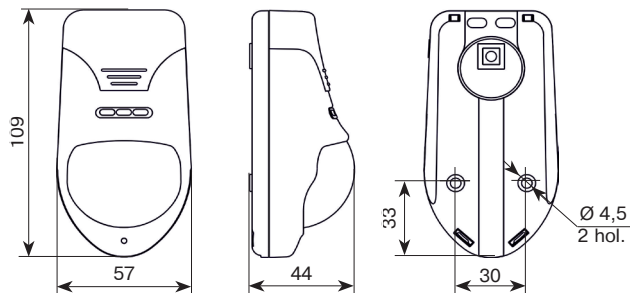
Table 5

Indication	Connection quality	Recommendations
The indicator turns green three times	Perfect	Install the detector in this location
The indicator turns green twice	Good	
Green indicator turns on once	Weak	Use repeaters of the Ladoga RK system
Red indicator turns on four times	No connection	

10 Installation

- Remove the detector hatch piece (pos. 2, picture 3);
- Remove the board with case cover (4,3) from the base (1) by pulling them towards you and down;
- Open the holes in the base of the detector that will be used to mount the detector;
- Having chosen the installation location, mark the holes for mounting the detector, taking into account the position of the holes in the base, drill holes in the wall;
- Fix the detector case base to the selected location;
- Place the case cover with the printed circuit board into the base.
- Insert the battery, close the hatch piece.
- Set the operating mode using the configurator in accordance with specific application conditions (Table 1).

Dimensions (mm)



Picture 4

11 Power on and checking

When the power is turned on, the detector goes into standby mode for 60 s. At the same time, the red and then green indicators turn on. The red indicator flashes once, then the green indicator turns on and flashes in accordance with the table 5.

12 Testing

In standby mode, the detector generates a «Normal» notification. To check the correct choice of installation location, it is necessary to test the AC and IR channels, as well as evaluate the quality of wireless connection (see paragraph «Assessment of the connection quality with the Control Panel»)

1. IR channel testing

The test should be carried out in the absence of unauthorized persons in the secured area. After turning on the detector's power, wait for 60 seconds. Before starting the test. Determine the beginning of the detection zone by turning on the indicator. Start walking through the detection zone at various distances from the detector (including maximum range). After 3–5 steps, the detector should give an alarm message, accompanied by turning on the indicator (if indication is allowed in the control panel). Wait until the indicator turns off and continue moving through the area. If there is no movement in the room, an alarm notification should not be triggered.

2. AC channel testing

Set the minimum sensitivity of the detector (in the configurator). If any noise is indicated, eliminate the sources of interference if possible. Remove the hatch (2), and the green LED will blink rarely, indicating that the test mode is on.

Apply a test blow to the most remote part of the secured glass with a steel ball with a diameter of 21–22 mm, suspended on a thread (35±1) cm long, placed it at an angle of 30–70° (see Table 6). If during test strikes the red indicator does not turn on and no «Alarm» notification is received, then the sensitivity of the detector should be increased by setting the appropriate value in the configurator.

To monitor the proper operation of the detector, you can also use the acoustic glass break simulator «ARS» by «Argus-Spectrum» or similar.

Table 6

Glass thickness, mm	<3	3-4	4-5	5-6	6-7	>7
Angle of placing of the ball from ordinary, patterned, reinforced glass, °	30	35	40	45*	50	55
Angle of placing of the ball from tempered glass and glass protected by polymer film, °	45	50	55	60	65	70

* Ball placing angle for a glass block.

13 Power failure

When the supply voltage drops below 2.4 V, the control panel displays a «Main power failure» notification, and is the supply voltage drops below 2.2 V, a «Backup power failure» notification is issued. The fault stays in the system until the power is turned off.

ATTENTION! The detector must be checked at least once a year to ensure its performance.

14 Storage and transportation

The detector in the manufacturer's transport container can be transported by any type of transport in covered vehicles (in railway cars, closed cars, sealed heated compartments of aircraft, holds, etc.) over any distance. When transporting the detector, you must be guided by the rules and regulations in force for the relevant types of transport.

The conditions for transporting the detector must comply with storage conditions.

The packaged detector must be stored in warehouses under storage conditions.

The storage room should be free of conductive dust, vapors of acids and alkalis, as well as gases that cause corrosion and destroy insulation.

15 Manufacturer's warranty

The manufacturer guarantees conformity of the Detector to the Technical Specifications requirements provided the transportation, storage, installation and operation conditions are observed.

The guaranteed shelf life is 63 months from the date of manufacture of the detector.

The guaranteed service life is 60 months from the date of commissioning within the warranty storage period.

Detectors that, during the warranty period, subject to compliance with the operating and installation rules, are found to be non-compliant with technical requirements, are repaired by the manufacturer.

16 Certificate of acceptance and packaging

Combined wireless security detector «Pyrone-7-RK», has been manufactured in compliance with the active technical documentation, classified as fit for operation and packed by «Development and Production Enterprise RIELTA» LLC.

Packing date _____
month, year