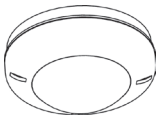
WIRELESS PASSIVE INFRARED DETECTOR
«Pyrone-6RK»



Installation Guide

1 General Information

1.1 Wireless passive infrared detector «Pyrone-6» (hereinafter, the Detector) is intended for detecting intrusion into a closed protected space and generating an alarm message.

The Detector is intended for operation as a component of a system, that is operated by a control panel (hereinafter, the CP), supporting radio exchange protocol «Rielta-Contact-R».

1.2 The Detector generates messages about it's state and transfers them via two-way radio communication within a frequency range 433.05...434.79 MHz by a radio exchange protocol «Rielta-Contact-R».

1.3 The Detector is powered from one power supply battery of CR123A type.

1.4 The Detector comprises 2 double-colored LED indicators (red and green) for operability control as well as micro-switch for case tamper protection.

1.5 The Detector provides possibility of detection range choosing by the detector installation height changing as well as opportunity of LED indication disabling by the radio channel.

1.6 «RESET» contacts ensure the Detector turning over to the linking mode.

1.7 The Detector generates and transfers 6 types of messages about it's states:

- norm;
- alarm;
- unauthorized access (case tamper message);
- power supply battery discharge:
  - basic power level discharge - at voltage value lower than 2.4V;
  - reserve power level discharge - at voltage value lower than 2.2V;
- operation in «Linking» mode;
- operation in «Identification» mode;
- communication quality.

1.8 Radio exchange is initiated by the Detector with a period: 10 s, 15 s, 30 s, 60 s, 5 min, 10 min. Period of radio sessions is assigned during Detector adjustment. Messages about alarm and tampering are transferred immediately.

1.9 The Detector ensures high level of interference protection as well as false alarms absence.

1.10 The Detector is designed for continuous operation around the clock.

2 Features

- Sensing elements – two dual-element pyrodetectors.
- Digital temperature compensation.
- Unic lens provides wide-range detection zone with high filled density, ensuring reliable detection of the intrusion at any direction.
- Switching to the reserve frequency in case of severe interference conditions on the main one.
- Microprocessor-based signal processing.
- Choosing of installation height.
- Self-test mode ensuranse.

3 Field of Application

The Detector can be used in private apartments, as well as in shops, offices, museums, production facilities.

4 Specifications

Table 1

Parameter	Value
Detection zone	Wide-angle, cone-shaped. Zones: 10 long-range, 1 middle-range,1 short-range
Detection size (zone projection diameter) at mounting height: - 5 m, not less than - 2.5 m, not less than	9 m 4.5 m
Radio communication period	10 s ...10 min assigned during linking procedure
Mean-time-to-failure in standby mode	60 000 h

Table 1 continued

IP rating	IP41
Dimensions (diameter x height), not more than	Ø 105 x 45 mm
Weight, not more than	0.15 kg
Battery life (at normal climate conditions and radio communication period not less than 60s), minimum	5 years
Average service life	8 years
Operational conditions	
Operating temperature	-20... +55 °C
Relative humidity at +25 °C without moisture condensation	98 %

Detection zone diagram

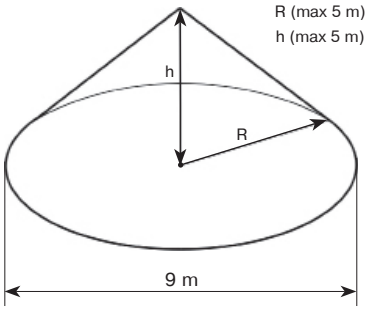


Figure 1 - Detection zone diagram

5 Scope of Delivery

Each Detector unit package contains the items listed in Table 2.

Table 2

Name	QNT
Wireless passive infrared detector «Pyrone-6RK»	1 pc.
Lithium power supply battery CR123A type	1 pc.*
Wireless passive infrared detector «Pyrone-6RK». Installation Guide	1 copy
* Installed	

6 LED Indication

Table 3

Detector status	LED	
	LED state	Operation mode
«Linking»	LED blinking green	
«Alarm»*	LED lighting red for the tim not less than 0.5 s	if allowed
«Identification»	Alternate LED indicator blinking red and green colors	by the command from the CP
«Communication quality»	See Cl. «Communication Quality Appraising»	
Finish of linking procedure	LED lighting lighting red for 2 s	
* Alarm indication switches on by the relevant command from the CP and is off in 15 min after the Detector cover closing.		

7 Introduction into Service (Logging in the CP)

7.1 The linking procedure is intended for logging of the Detector in the CP and transmission of service information to it.

7.2 Prepare the CP for the Detector logging in accordance to the CP manual.

- Install the PCB into base, and then install CR2032 backup power-supply battery.
- Install the PCB into the Detector case, and then install the CR123A main power-supply battery.
- Blinking green of the LED indicator displays the Detector readiness for the linking procedure.

In case the LED indicator does not blink, close the «Reset» contacts for a short period.

- After successful linking with the CP, the LED indicator is lighting red for 2 sec.
- The «Linkng» procedure is limited to 100 sec. After it expires, the Detector switches to the sleep mode. To resume «Linking» mode, «Reset» contacts should be temporary closed.
- For installation height «5m/2.5m» assign chosen parameter in the CP. If the ceiling height is 3m, parameter value 2.5 should be assigned. At this rate the interference resistance of the Detector in small premises with severe interference conditions increases.

8 Choosing the Installation Place

8.1 The Detector should be installed in radio coverage zone of it's CP. That is why is recommended previously to apprise communication quality with the CP. Procedure of communication quality appraisal is described in details in Cl. «Communication Quality Appraising».

8.2 When choosing the Detector installation place, it is advisable to take note of the fact that the detection zone may be limited by non-transparent objects (curtains, houseplants, cabinets, bookcases, etc.), as well as by glass and mesh partitions. There must be no windows, air conditioners, space heaters or heating radiators in the PIR-detection zone. The presence of furniture in the detection zone that can be climbed on by an animal may cause a false alarm.

The recommended installation height is 2.3 m from the floor.

8.3 The Detector wires should be laid no closer than 0.5 m from power supply cables.

9 Communication Quality Appraising

To install the Detector on the place of installation it is wise to check communication quality with the CP.

For this purpose act as follows:

- Place the Detector with closed cover on the installation place.
- Open the case, whereupon the Detector displays appraisal of communication quality.

Table 4

LED Indication	Communication quality appraisal	Recommendations
LED indicator blinks green three times	Excellent	Install the Detector at this place
LED indicator blinks green two times	Good	
LED indicator blinks green one time	Communication established	Choose another place of installation or use a repeater out of «Ladoga-RK» product line
LED indicator blinks red four times	No communication	

10 Installation of the Detector

Before the Detector installation it is necessary to put off it's cover and PCB:

- put off the Detector cover by its turning counter-clockwise until tight to the recess on the external ring of the Detector base and then rise the cover (see Fig.2);
- put off the printed circuit board (PCB) by unfastening the latch, located on the base (see Fig.2);
- drill the holes in the base (see Fig.2) for the Detector wiring and fastening the base;
-choose the place of installation, mark the places for mounting holes with regard to the openings on the detector base, drill holes in the place of installation;
- fasten the base of the detector on the chosen place;
- install power supply battery into holders on the PCB;
- set down PCB on their places;
- close the cover.

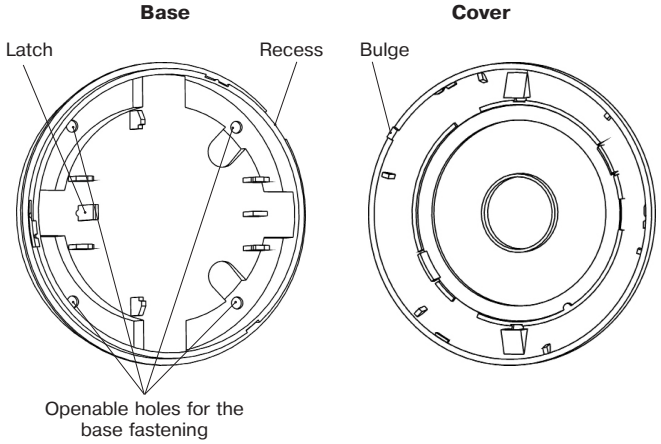


Figure 2 – Base and cover of the Detector

11 Functional check

On the expiry of warm-up time, the Detector turnes over the standby mode and is able to generate an alarm message/ High density of the detection zone providesdetection of intruder moving at any direction.

Start walking across the detection zone. After 3 – 4 steps across the detection zone, the detector must display the detection by the red blink of the LED indicator. Wait for 10 sec and continue walking across the detection zone. There must be no LED indication if there are no moving objects in the room.

NOTE – If the ambient temperature value is close to 28 °C, temperature compensation is switched on, providing maintainance of detection ability of the Detector.

12 Specialties of the Detector Operation

12.1 Energising/de-energising of the Detector is fulfilled by power supply battery installation/removal.

12.2 In case of communication loss with the CP, the Detector comtinues its search. Thus, in the event of de-energising the CP for a long time it is recommended to kill power of the Detector too (See cl.12.1).

12.3 It should be taken in consideration that exploitation of the Detector in ambient temperature range from minus 20 to +5 results in reducing of battery life.

ATTENTION! The Detector should be checked at least annually for it's operability control.

13 Storage and Transportation

13.1 Factory-packed detectors can be shipped by any transport means in covered vehicles (in railway cars, trucks, sealed heated compartments of aircraft, holds etc). Shipping of the Detector must be arranged according to rules and regulatory documents for different means of transport.

13.2 The storage room shall be free from current-conducting dust, acid vapors, alkali and gases that cause corrosion and destroy insulation.

13.3 During storage period the Detector power battery should be withdrawn from the holder or insulator should be installed.

14 Manufacturer's Guarantees

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

14.2 The guaranteed shelf life of the Detector is 63 months since the date of manufacture.

14.3 The guaranteed useful life is 60 months since the day of putting into operation within the guaranteed shelf life.

14.4 The Detectors that are found non-conforming to the Technical Specifications shall be repaired by the manufacturer, provided the installation and operation rules have been complied with.

NOTE – Warranty obligations are not applied to the power supply batteries.

15 Packing Certificate

Wireless security passive infrared wide-angle detector «Pyrone-6RK» 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

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v10.1

Made in Russia

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