

Addressable motion security PIR detector «IK-A»

«IK-A»

Installation Guide



1 Introduction

1.1 The addressable motion security PIR detector «IK-A» (hereinafter referred to as the Detector) allows to expose intrusion into the secured space of a room by transmitting of notifications via an addressable loop (hereinafter referred to as ADL) in accordance with the «Rielta-Contact-ADR» protocol to a control panel (hereinafter – CP).

1.2 The Detector is powered from the ADL.

1.3 The Detector operates using amplitude-time digital signal processing.

1.4 The Detector is equipped with a red indicator light to monitor its functionality with the ability to turn it off.

1.5 The Detector generates and transmits five types of notifications via ADL:

- «Normal» – in normal condition;
- «Violation» – when intrusion is detected;
- «Opening» – when the case cover is open;
- «Power failure» – when the supply voltage in the ADL is low;
- «Sensitivity», which is determined by the state of the SENS contacts.

1.6 The Detector can report on the current value of the supply voltage in the ADL in response to a corresponding request from the CP.

1.7 The Detector is designed for continuous 24-hour operation.

1.8 The Detector belongs to single-function, non-repairable and serviceable products.

1.9 The Detector is resistant to electromagnetic interference.

1.10 The Detector is not a source of interference to similar detectors, detectors of other types and purposes, as well as to any other household radio equipment.

2 Special features

- The sensitive element is a two-area pyroelectric sensor.
- The spherical lens ensures no distortion in the detection zone and is immune to interference from pets.
- 3 adjustable noise immunity levels of sensitivity.
- Thermal compensation of detection ability.
- The Detector can be mount on a wall, in the corner of a room, on the ceiling and ceilings (with a bracket).

3 Field of application

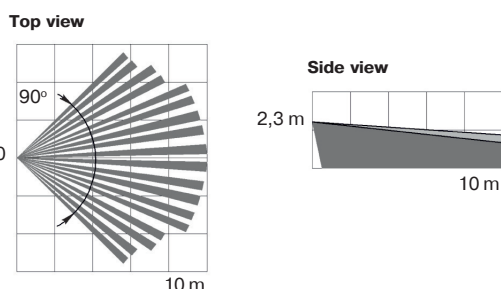
The Detector can be installed in apartments, as well as in shops, offices, museums, and industrial facilities. The Detector has a pet immunity for animals up to 40 kg (20 kg).

4 Technical features

Table 1

Parameter	Value
Detection area	volumetric 8 distant, 4 close
Maximum detection range	10 m
Supply voltage (in the absence of ADL exchange)	6.5...14 V
Detector current consumption in the absence of ANC exchange and indication, no more	0.5 mA
Recommended installation height	2.3 ± 0,1 m
Protection class	IP41
Average time to failure in standby mode	60 000 hrs
Weight	0.06 kg
Average service life	8 years
Operational conditions	
Operating temperature range	-30... +55 °C
Permissible air humidity at temperature	98 %

Detection zone scheme



Picture 1 – Detection zone

5 Contents of the set

The Detector delivery set corresponds to that specified in Table 2.

Table 2

Name	QNT
Addressable motion security PIR detector «IK-A»	1 pc.
Mounting bracket	*
Instructions for the Addressable motion security PIR detector «IK-A»	1 copy

* Supplied upon special request

6 Design

The Detector consists of a case cover and a case base (1) with an installed printed circuit board (2).

The base of the case with a printed circuit board is shown in Pic. 2 a).

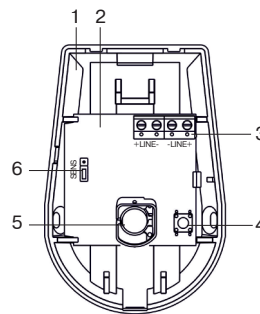
The printed circuit board contains:

- terminal blocks (3) for connecting ADL;
- tamper switch (4);
- sensitive element (5);
- SENS jumper (6).

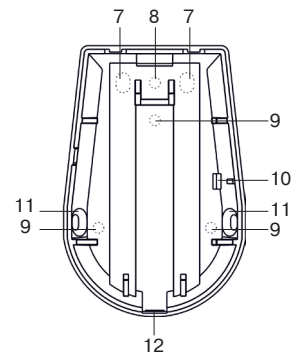
At the base of the case (Pic. 2b) there are:

- technical openings for wires (7), for attaching the base to the bracket (8); for wall mounting (9);
- detector board retainer (10);
- hole for case cover lock (12).

a) Top view (no case cover)



b) Case base



Picture 2 – Case of the Detector with PCB

7 Indication

The Detector generates the following types of indication:

- indication of successful registration/deletion of the detector in the CP;
- «Identification» indication turns on when receiving the corresponding command from the CP and remains for 15 minutes;
- indication of the detector status turns on immediately after power is applied, after registering/deleting the Detector in the CP or upon receiving the corresponding command from the CP and is stored for 15 minutes in case of the absence of other types of indication.

The indicator activation modes are listed in Table 3.

Table 3

Detector status	Indication	
	Indicator status	Work mode
Successful registration/deletion	intermittent activation of the indicator for 2 s	
«Alarm»*	single short switching on of the indicator with a period of 2 s	if indication is enabled
«Identification»	two-time short switching on of the indicator with a period of 2 s	on command from CP
«Normal»	off	

* The alarm indication turns off 15 minutes after power is applied to the detector

8 Choosing the place of installation

8.1 The Detector should be used in enclosed spaces. When choosing a location for installing the Detector one should pay attention to positioning of the detection zone (hereinafter referred to as DZ) as it should not be blocked by opaque objects (curtains, indoor plants, cabinets, shelving, etc.), as well as glass and mesh partitions.

8.2 If possible, there should be no windows, air conditioners, heaters, or radiators in the field of view of the detector.

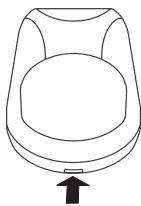
8.3 The Detector should be located no closer than 0.5 m from power electrical cables.

9 Installation and registration

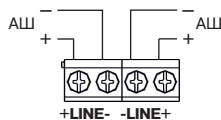
- Remove the Detector case cover by using a screwdriver to press the cover lock through the hole located in the lower part of the detector base (Pic. 3).
- Drill holes in the base of the Detector that will be used for laying wires and attaching the Detector (Pic. 2 b).
- Having chosen the installation location, mark the holes for installation (Pic. 5), taking into account the position of the holes in the base of the Detector (bracket), drill holes at the installation site.

- Pass the wires through the holes in the base of the Detector, leave a few centimeters of the mounting wire for connection to the blocks.
- Connect the wires according to pic. 4.
- Attach the detector base to the selected location.
- Prepare the CP for detector registration in accordance with the instructions for the CP.
- Register the detector in the CP.
- Install the PCB
- Install the cover.

Note – In order to avoid false alarms from pets, when installing the detector, it is not recommended to deviate its position from the vertical by more than 2 degrees.



Picture 3



Picture 4

10 Sensitivity adjustment

The Detector is equipped with a SENS jumper (Pic. 2a). When the jumper is removed, the Detector operates in the «normal sensitivity» mode (pet immunity – 40 kg (20 kg), detection range – 10 m). When the jumper is installed, the detector operates in «high sensitivity» mode (pet immunity – 10 kg, detection range – 12 m).

11 Functionality check

11.1 The functionality check should be carried out in the absence of unauthorized persons in the secured area.

11.2 Start passing through the DZ. After 3–4 steps in the DZ, the Detector should indicate detection by briefly turning on the red indicator. Wait for 10 s and continue moving through the area. If there is no movement in the room, the indication should not turn on.

ATTENTION! The Detector must be checked at least once a year to ensure its functionality.

12 Storage and transportation

12.1 The Detector in original package is resistant to:

- transport jolting with the acceleration of 30 m/sec² with impact frequency rate from 10 to 120 impacts/sec or 15000 impacts with the same acceleration;

- the ambient temperature from minus 50 ... +50 °C;

- relative air humidity (95 ± 3) % at the ambient temperature +35 °C.

12.2 The Detectors in original package may be transported by any transport facility in closed vehicles over any distances in compliance with the existing shipping rules concerning the respective means of transport.

12.3 The time the Detector is ready for operation after transportation in conditions other than operating conditions is at least 6 hours.

13 Manufacturer's Guarantees

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

Guaranteed storage period is 63 months from the date of manufacture of the detector.

13.2 Warranty period of operation is 60 months from the date of commissioning within the warranty period of storage.

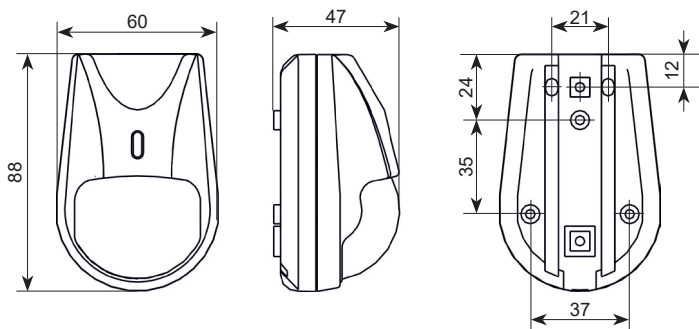
13.3 Detectors that, during the warranty period, were found not to be compliant with the operating and installation rules, are repaired by the manufacturer.

14 Packing Certificate

Addressable motion security detector «IK-A» has been manufactured in compliance with the active technical documentation, classified as fit for operation and packed by «Development and Production Enterprise RIELTA» LLC.

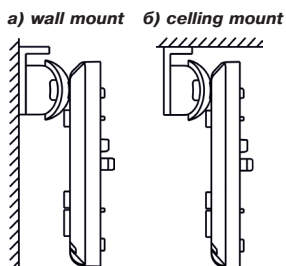
Packing date _____
month, year

Dimensions, mm



Picture 5

Note – When attaching the detector to the bracket (Pic. 6), remove the M3x20 screw from the bracket. While holding the bracket assembled, align the square protrusion of the outer sphere of the bracket with the corresponding groove in the base of the Detector and connect with a screw using a force that ensures the rotation of the base on the bracket. Turn the base of the Detector to the far left and then to the far right position and secure the bracket in place with screws. Place the detector base in the operating position and secure it with an M3x20 screw.



Picture 6 – Mounting the detector with a bracket