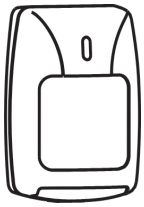
PASSIVE INFRARED DETECTORS

«FOTON-9»
«FOTON-9M»



Installation Guide

1 Introduction

The detectors «Foton-9» and «Foton-9M» (hereinafter, the detector) are intended for detecting intrusion into the protected space and generating an alarm message by opening the relay output contacts.

The detector is protected against unauthorized case tampering. The «Tamper» message is generated by opening microswitch contacts.

The detector is resistant to the impact of ambient light and radio interference.

The detector is compact, attractive and simple in installation and servicing. It is possible to install the detector on the wall or in the corner of the premises.

2 Features

- Dual-element pyrodetector.
- High density of sensitivity areas in wide-angle detection zone.
- Case tamper protection.
- Digital temperature compensation.
- Immunity to insects intrusion to the pyrodetector.
- Sabotage protection of the area directly under the detector place of location prevents an unauthorized approach to the detector.
- Sensitivity adjustment.
- Possibility to disable the LED indicator.
- The detector is rated for switching to the DC power source with output voltage 9...15 V with ripple amplitude not more than 0,1 V.

3 Application

The detector may be installed in the flats, shops, offices, museums.

4 Choosing the Place of Installation

When choosing the Detector place of installation, take note of the fact that the detection zone may be limited by non-transparent objects (curtains, houseplants, cabinets, bookcases, etc.), as well as glass and mesh partitions. There must be no windows, air conditioners, space heaters or heating radiators in the vision area of the Detector.

Recommended installation height – 2.3 m from the floor.

To provide the detection zone repositioning, it is acceptable to install the detector on the swivel bracket (supplied with «Foton-9M»)

The wires of power supply and alarm loop should be located far enough from power feed cables.

5 Installation

Before installation put off cover and PCB as follows:

- unfasten the latch, which is situated downside the detector case by means of screwdriver and put off the detector cover (fig.1);
- put off the PCB by means of pushing up its fixing arm (fig.2);

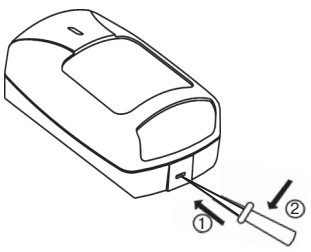


Figure 1 - The Detector Outside View

Places for drilling the holes:

A – for installation on the wall;
B – for installation in the corner;
D – for wiring;
E – for fastening the base on the swivel bracket

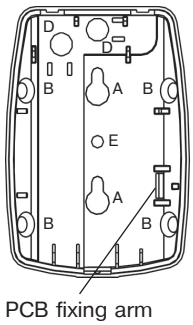


Figure 2 - The Detector Base

7 Installation without Swivel Bracket:

- drill the holes in the base of the detector case for wiring and fastening the detector;
- choose the place of installation, mark the places for mounting holes with the regard to the openings on the detector base, drill the holes in the wall;
- pass the wire through the mounting holes in the base;
- leave several centimeters of installation wire for its fastening inside the case;
- fix the base of the detector case on the wall and set down PCB on its place.

8 Installation by Means of Swivel Bracket:

- choose the place of the detector installation and mark the places for assembly holes with the regard to the openings on the swivel bracket and drill the holes in the wall;
- drill the holes in the base of the detector case for wiring and fastening the detector to the swivel bracket;
- unscrew the cap screw from the swivel bracket keeping the swivel bracket in assembly. Fit the square bulge of the swivel bracket external sphere with the corresponded opening on the detector base and fix the connection by the screw with the force providing rotational motion of the base on the swivel bracket;
- turn the detector base to the farthest left position and fix the swivel bracket by screw, then turn the detector base to the farthest opposite position and fix the swivel bracket by screw at the other side ;
- install the detector to the required position and fix it by the screw;
- put PCB on its place.

The Swivel Bracket Components

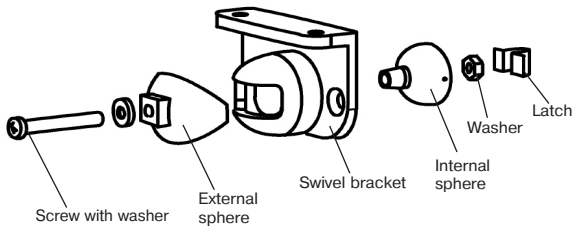


Figure 3 - Swivel Bracket

9 Connection

- The terminals for the detector connection are located at the PCB right side.
- Fulfill connections in accordance with the connection diagram (Fig.4)
- Install the jumpers as shown in Figure 5 in accordance with application conditions.
- Put the detector cover on its place.

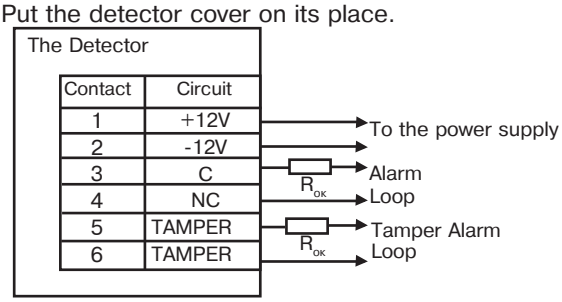


Figure 4 - Connection Diagram

10 Dip-switches installation

Mode	Dip-switch	Installed	Removed
Sensitivity	SENS	Two upper contacts – high level; Two lower contacts – normal	Normal
Alarm LED indication	IND	LED Indication is ON	Indication is disabled

11 LED Indication

The LED indicator on the cover front side is used for displaying of the detector status.

Mode	LED indicator	
	ON	OFF
Warm-up time after energizing	–	45 s
Message indication	2 s – «Alarm»	«Norm»

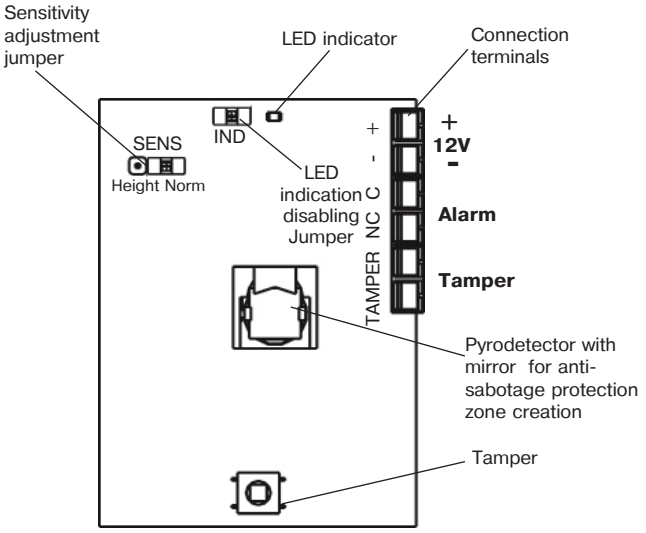


Figure 5 – Printed Circuit Board

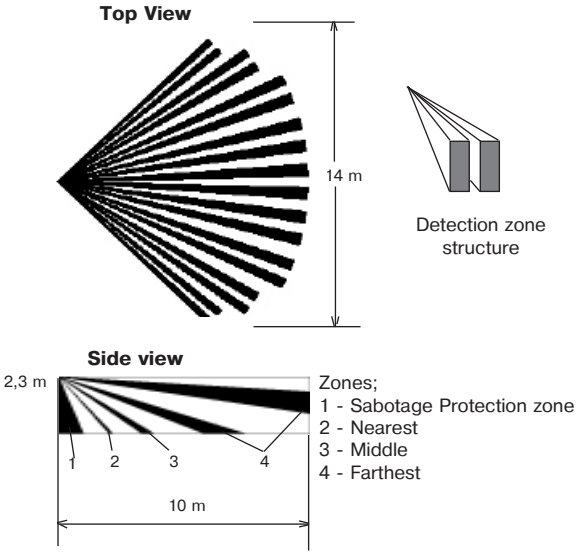


Figure 6 – Detection Zones Diagram

12 Specifications

Detection Zone	10 x 14 m
Power Supply, V DC	9–15 V, current 15 mA
Relay output contacts	closed – «Norm» message, current, max – 30 mA, voltage, max – 72 V
Microswitch output contacts	closed when the cover is shut down, current, max – 30 mA, voltage, max – 72 V
Alarm message duration	not less than 2 s
Detection zones	18 far zones , 5 middle zones , 3 near-in zones, 2 antisabotage zones
Sensitivity	chosen by SENS jumper (high/normal)
Operating temperature range	-30 ... +55 ^{0}C
Relative humidity	98 % under 25 ^{0}C without moisture condensation
Dimensions	88 x 61 x 41 mm
Weight, max	90 g

13 Functional Check

Energize the detector and wait for 1 minute. Begin moving across the detection zone. In the mode of high sensitivity the detector must generate alarm message after 2 – 3 footpaces.

In the normal sensitivity mode the detector must generate alarm message after 3 – 4 footpaces.

Wait until the detector is switched off and continue moving across the detection zone. Under the absence of movement inside the detection zone, alarm message must not be generated.

ATTENTION! The detector must be checked at least once annually for functional testing.

14 Disable LED Indication

For the LED indication disabling remove the jumper IND. The jumper location is shown in Fig.5.

Place the jumper over one of the pins for the further usage during the check.

15 Packing Certificate

Passive infrared detector «Foton-9» and «Foton-9M» manufactured in accordance with current technical documentation is classified as fit for operation and is packed by «Development and Production Enterprise RIELTA » LLC.

Packing date _____
month, year

Rev. 5 of 01.03.2021
№00317
v4

Made in Russia

«Development and Production Enterprise RIELTA» LLC
Petrogradskaya nab., 34, letter B, Saint Petersburg, Russia, 197046
www.rielta.com, rielta@rielta.com
Tel./fax: +7 (812) 233-0302, 703-1360, support@rielta.com
Technical support, tel.: +7 (812) 233-29-53, 703-13-57, support@rielta.com