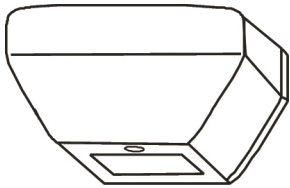


«FOTON-SH1»



Installation Guide

1 General Information

Passive infrared detector «Foton-SH1» (hereinafter, the Detector) is designed for detecting intrusion into the protected closed area of a room through door and window openings, for generating and transmitting alarm messages by current step-up in an alarm loop (hereinafter, AL).

2 Features

- Dual-element pyrodetector.
- «Vertical curtain» detection zone.
- Recommended installation height is not lower than 2.5 m.
- Adjustment mode choosing.
- Possibility of LED indication disabling.
- Detection zone alignment ability.
- Is rated for connection to AL with operating voltage DC 8 ... 30 V.
- Connection up to 4 detectors to AL.
- High resistance to ambient light – up to 12 000 lx.
- Immunity to small pet's movement.
- Compact, attractive design.
- Ease of installation and servicing.
- Wall installation by means of the swivel bracket (supplied).

3 Choosing an Installation Place for the Detector

The Detector is designed for using in closed premises (shops, offices, museums, flats, etc). When choosing place of the Detector installation, it is advisable to take note of the fact that the detection zone may be limited by non-transparent objects (curtains, curtain holders, door trims, etc), as well as glass partitions. There must be no air conditioners, space heaters or heating radiators in the Detectors' detection zone. Maximum installation height of the Detector is 5 m. Alarm loop wiring should be conveyed far enough from high-energy electrical power cables.

4 Jumpers Setting and LED Indication Modes

Set the Detector jumpers corresponding to the specified application conditions.

Table 1

Characteristic	Jumper	Mode in case jumper is installed	Mode in case jumper is removed
Sensitivity	«PULSE»	«1» – high «2» – normal	–
Alarm LED indication	«IND»	LED Indication disabled	LED Indication is in operation

5 Specifications

Table 2

Parameter	Value
Installation height, up to	5 m
Warm-up time, not more than	60 sec
Alarm message duration, not less than	2 sec
Voltage supply (AL)	8 ... 30 V
Consumption current: - in standby mode, not more than - in Alarm mode, adjustable in the limits	0.3 mA 1.0 ... 3.2 mA at UAL min = 8 V 2.6 ... 13.2 mA at UAL max = 30 V
Operating temperature	minus 30...+50 °C
Relative humidity at 25 °C, up to	95 %
Sensitivity, chosen by jumper «PULSE» installation	High/Normal
Detection zone	Vertical curtain
Dimensions	91 x 52 x 56 mm
Weight	120 g

6 Scope of Delivery

Each Detector unit package contains items listed in Table 3.

Table 3

Name	QNT
Passive infrared detector «Foton-SH1»	1 pc.
Swivel bracket	1 pc.
Tap screw 3x10.01.016	2 pcs.
Screw nail 3-3x30.016	2 pcs.
Passive infrared detector «Foton-SH1». Installation Guide	1 copy

7 Detection zone pattern

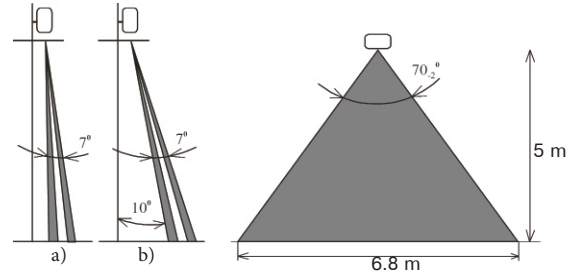


Figure 1

8 Quantity of the Detectors Connected to one Alarm Loop

8.1 Connection patterns are shown in Figure 6.

8.2 Quantity of the detectors connected to one AL can be defined by the following formula:

$$n = \frac{I_0 - \frac{8}{R_{term}}}{I_1}$$

I_0 – AL current level, at which AL load voltage value is equal to 8 V;
 I_1 – current applied to the Detector with installed terminal resistor, providing AL alarm state;
 R_{term} – resistance of the terminal (EOL) resistor.

9 Installing the Detector

ATTENTION! During the Detector mounting be careful with the optical filter located on pyrodetector.

9.1 Insert a flat screwdriver into the clip slit trench in the lower part of the Detector case and depress the clip (See Figure 2).

9.2 Loosen the screws, providing fixation of the base and remove it from the swivel bracket (Figure 3).

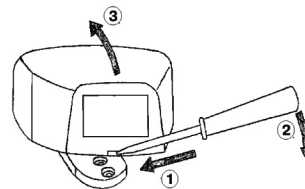


Figure 2

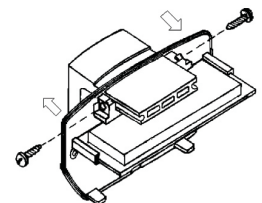


Figure 3

9.3 Remove port plugs for wire installation at the swivel bracket. Run the wires through the swivel bracket openings and fasten the swivel bracket at the chosen place on the wall (See Figure 4).

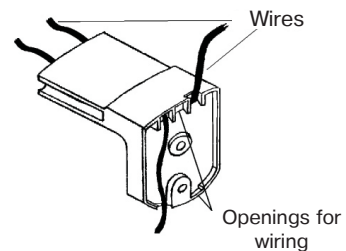


Figure 4

9.4 Install the base with the printed circuit board (PCB) on the swivel bracket at such a distance from the wall, where curtain-rods would not shut in the detection zone.

Fix the base on the swivel bracket by means of tap screws (See Figure 3).

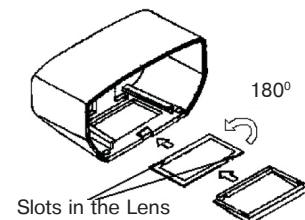


Figure 5

Lead the wires above the PCB. Hook up the Detector as it shown in Figure 6. Put the Detector cover on it's place.

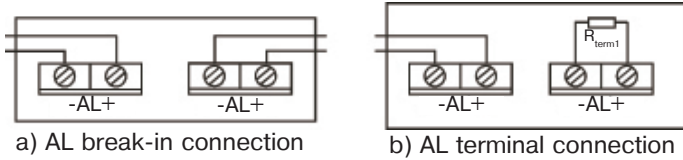


Figure 6

10 Detection Zone Alignment

The process of the detection zone position alignment (Figure 1a) is fulfilled in high sensitivity mode («PULSE» jumper should be installed to «1» position). Jumper «IND» should be removed (LED indicator is in operation).

Energize the Detector and wait for 1 min. Start walking through the detection zone at a speed rate 0.5 – 1 m/sec. When the detection zone border is crossed, the Detector transmits an alarm message (LED indicator is switched on). Cross the detection zone from the other side and define it's opposite border. When there is no motion in the detection zone, alarm messages should not be generated. In case the detection zone is screened by some objects (curtain holders, curtains, door trims), the position of the Detector should be changed (see Cl. 11). After repeated detection zone alignment, install «PULSE» and «IND» jumpers to the mode required for chosen protection tactics.

In «Normal» sensitivity mode (jumper «PULSE» is in position «2»), the Detector should generate an «Alarm» message if two zone beams are crossed. This mode is recommended as a basic one for the Detector operation.

11 Detection Zone Position Changing

The Detector design provides possibility to remove the detection zone from the wall by the base displacement along the swivel bracket. It is also possible to change the detection zone position in vertical plane by the lens overturn. The Detector design provides the detection zone turn in vertical plane up to 10° (see Figure 1b). To fulfill the turn, act as follows:

- put off the cover;
- pull out the frame by rising it slightly;
- pull out the lens, turn it through 180° (See Figure 5), install the Detector cover in such a way as to the single recess should be directed inside the case and the lens smooth side should be directed outside;
- put the frame on it's place until it goes click and close the cover.

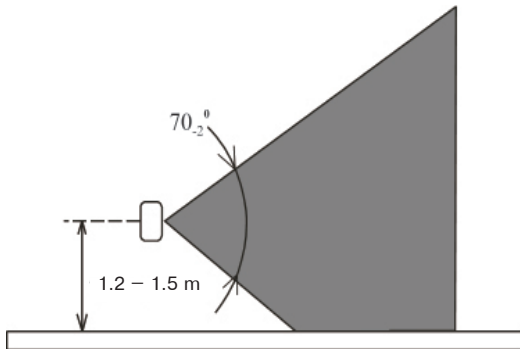


Figure 7

The detector turnover through 90° is possible as well as Detector installation at a height of 1.2 – 1.5 m. In this case the detection zone is directed horizontally, detection range is 8 m (See Figure 7).

12 Storage and Transportation

The Detectors in their original packing may be shipped by any transport means in covered vehicles (in railway, cars, trucks, sealed heated compartments of aircraft, ship cargo holds, etc). The storage room should be free from current-conducting dust, acid vapors, alkali and gases that cause corrosion and destroy insulation.

13 Manufacturer's Guarantees

13.1 The Manufacturer guarantees conformity of the Detector to it's Technical Specifications if conditions of transportation, storage, assembling and operation are observed. The guaranteed storage period is 63 months since the date of manufacturing the Detector.

13.2 The guaranteed period of operation is 60 months since the date of commissioning within the storage period guaranteed.

13.3 The Detectors that are found to non-conforming to it's Technical Requirements shall be repaired by the Manufacturer, provided the installation and operation rules have been complied with.

14 Acceptance and Packing Certificate

Passive infrared detector «Foton-SH1»,

serial number _____,

has been manufactured in compliance with the active technical documentation and classified as fit for operation and packed by «RIELTA» JSC.

Person responsible for acceptance and packing

Representative of QCD _____ Date, month, year _____.