



PASSIVE INFRARED DETECTOR

«Pyrone-4i»

Installation Guide



Introduction

Passive infrared detector «Pyrone-4i» (hereinafter, the Detector) is designed for detection of intrusion into an enclosed secured area and generation of alarm signal by opening the output relay contacts.

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

The Detector is immune to the interference of small animals (mice, rats, birds) provided that the distance to them is not less than 2.5 m.

The Detector can be mounted directly on a ceiling, wall or in a corner of a room.

PIR channel ensures wide-angle detection zone and pet immunity to animals up to 20 kg with thermal contrast $t = 8 \text{ }^\circ\text{C}$.

Main Features of the Detector

- Dual-element pyrodetector.
- Spherical lens.
- Microprocessor-based signal processing.
- Mounting height – $(2.3 \pm 0.1) \text{ m}$.
- Case tamper protection.
- Sensitivity adjustment.
- Digital temperature compensation.

Specifications

Table 1

Parameter	Value
Maximum detection range	up to 10 m
Power supply	8 – 30 V DC, current 12 mA
Relay output contacts	NC 30 mA, 40 V
Alarm signal duration	not less than 2 s
Detection zones	Wide angle, 9 long-range zones, 5 short-range zones
Recommended installation height	$2.3 \pm 0.1 \text{ m}$
Operating temperature	minus $30 \text{ }^\circ\text{C}$... $+55 \text{ }^\circ\text{C}$
Permissible air humidity at $+25 \text{ }^\circ\text{C}$, without moisture condensation	98 %
IP rating	IP41
Dimensions, maximum	90 x 60 x 50 mm
Weight, maximum	60 g
Average service life	8 years

Detection zone layout is shown in Figure 1.

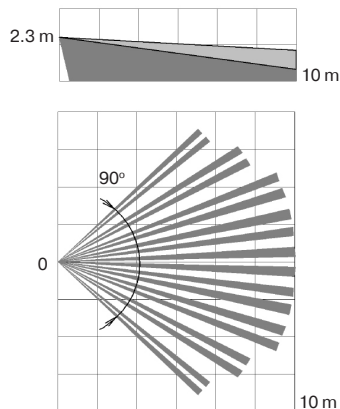


Figure 1 – Detection Zone Layout

The Detector ensures stable operation without activation of false alarms triggered by small animals movement, background light differentials, convective air flows, slow temperature changes, power surge in power supply circuit, electrostatic discharge, FM-band electromagnetic fields.

The Detector provides no interferences to other comparable detectors, detectors of the other type and designation, as well as to any home radio equipment.

The Detectors in original box may be shipped by any means of transportation in covered package (railway, cars, trucks, sealed heated compartments of aircraft, ship cargo holds, etc.).

The Detector is resistant to:

- transport jolting with the acceleration of 30 m/s^2 with impact frequency; from 10 to 120 impacts/s or 15000 impacts with the same acceleration;
- the ambient temperature minus $50 \dots +50 \text{ }^\circ\text{C}$;
- relative air humidity $(95 \pm 3) \%$ at ambient temperature $+35 \text{ }^\circ\text{C}$.

After transportation under the conditions different to operating conditions the Detector shall be ready for work after a maximum of 6 hours.

The average service life of the Detector in standby mode is not less than 60 000 hours.

Scope of Delivery

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

Table 2

Item	QTY
Passive infrared detector «Pyrone-4i»	1 pc.
Swivel bracket	1 pc.
Passive infrared detector «Pyrone-4i». Installation Guide	1 copy

LED Indication

Red LED indicator located on the front cover shows the operation status of the Detector in accordance with Table 3.

Table 3

Message	LED indication state
«Warm-up time»	Indication is ON till the moment of the Detector readiness
«Norm»	Indication is OFF
«Alarm»	LED indicator is lighting for 3 s

Choosing a Place of Installation for the Detector

The Detector is designed for indoor application.

When choosing the place for installation of the Detector, please note that the detection zone may be blocked by non-transparent obstacles (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 Detector observation zone.

Alarm loop and power supply wires should be located far enough from the power supply cables.

To avoid false alarms install the Detector vertically.

Installation the Detector

- Push the lock with a screw-driver through the hole on the lower side of the Detector base (See Figure 2) and remove the cover.

- In case of the Detector installation without the swivel bracket remove the printed circuit board (PCB) by pushing the PCB locating pin.

- Drill the holes in the base for wires insertion and mounting of the Detector.

- Choose the place of installation, mark out and drill the holes correspondingly in the place of the Detector mounting.

- Insert the wires through the holes in the Detector base, leave several centimeters of the mounting wire for connecting to the leading-in socket.

- Connect the wires in accordance with Figure 3.

- Mount the base on the chosen place of installation.

- Place the PCB in the place (if it was removed before).

- Put back the cover.

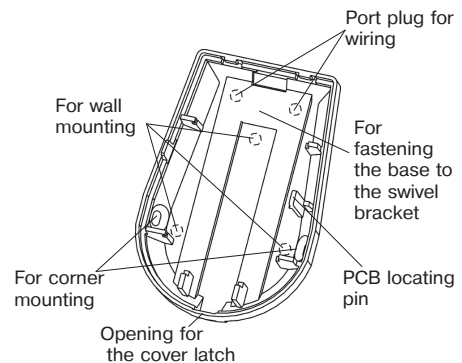


Figure 2 – Base

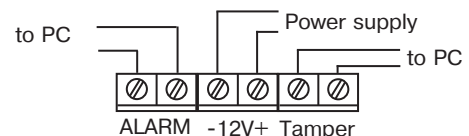


Figure 3

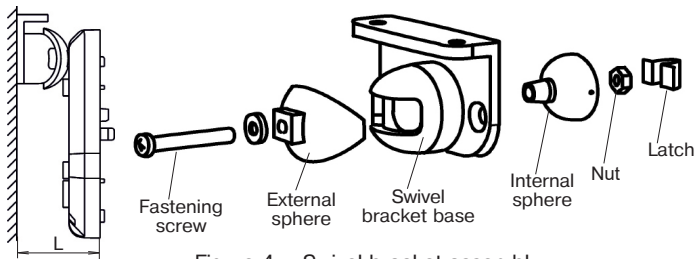


Figure 4 – Swivel bracket assembly

Note – In case of mounting the Detector on the swivel bracket, unscrew the M3x20 screw out of the swivel bracket. Holding the swivel bracket in assembled condition, insert the bulge into the external sphere corresponding recess and fasten with the screw. Apply force providing the base rotational motion on the swivel bracket.

Move the Detector base first in left and in right end positions and fasten the swivel bracket on the installation place. Adjust the Detector base operation position and fasten the base by the M3x20 screw.

Note – To reliably exclude false positives from pets, it is not recommended that its position deviate from the vertical by more than 2°.

Sensitivity adjustment

The Detector sensitivity can be adjusted with the SENS jumper. When the SENS jumper is removed, the Detector operates in normal sensitivity mode (three beams of the detection zone crossing). If the jumper is installed, the Detector operation switches to the high sensitivity mode (two beams of the detection zone crossing, reduced respond level).

Functional Testing

After connection of the Detector to power supply, wait for 60 – 70 s before starting functional testing.

Determine the border of the detection zone by LED indicator switching ON/OFF.

Start walking across the detection zone. After 3 – 5 steps across the detection zone, the Detector should generate an alarm message and display the detection by the LED indicator switching ON. Wait until the LED indicator is OFF and continue walking across the detection zone. There must be no indication in absence of moving objects in the room.

ATTENTION! The Detector must be checked at least annually in order to confirm its operational performance.

Storage and Transportation

The Detectors in original box can be shipped by any means of transportation in covered vehicles (railway, cars, trucks, sealed heated compartments of aircraft, ship cargo holds, etc.) over any distances in compliance with the existing shipping rules.

The storage facilities should not contain any current-conducting dust, acid and alkali fumes, corrosive or insulation degrading gases.

Manufacturer's Guarantees

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

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

The Detectors that are found non-conforming to their Technical Requirements shall be repaired by the Manufacturer, provided that the installation and operation rules have been observed.