

1. Introduction

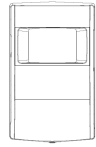
The PYR-4122, an analog hardwire pet immune Passive Infrared (PIR) Motion Detector is a high-performance, high stability intrusion sensor.

The PYR-4122 utilizes high-temperature compensation and a unique low-temperature compensation for maximal detection capabilities and minimal false-alarm transmissions.

The PYR-4122's pyroelectric sensor is enclosed in a sealed chamber, protected from insects and air drafts. For higher-security still, the PYR-4122 is supplied with a cover tamper which detects tampering with the sensor if the case is opened.

The PYR-4122 offers flexibility of operation and installation, by allowing simple selection between 1 and 3 pulses as well as three heights using an adjustment scale

Caution: Changes or modifications to this equipment not expressly approved by the party responsible for compliance (Rosslare Ltd.) could void the user's authority to operate the equipment.



2. Technical Specifications

2.1 Optical Characteristics

Lens Type: Pet immune multi-zone, high density polytilan type

Optical Filter: White light protection

Detector Type: Dual pyro IR element (IR filter 5um±14um)

Maximum Coverage: 9 x 9 m (29.5 x 29.5 ft) 50°

Pet Immune: Up to 18Kg (40lb).

Vertical Adjustment: 3-position adjustment scale:
1.8 m (6 ft), 2.1 m (7 ft) and 2.4 m (8 ft).

2.2 Electrical Characteristics

Input Power: Nominal +12 V DC 17mA (+9 to +16 V).

Current consumptions: Standby 15µA, 10mA transmission.

Alarm Signaling: Red LED 2 seconds on event transmission: alarm, tamper.

Alarm Output: Solid states relay (SSR) N.C (35V/100mA max)

Alarm Period: 2-3 seconds

Pulse Counter: 2 position selector, 1 or 3 pulse operation.

Temperature Compensation: Analog single slope (+/- 1°C)

Tamper Switches: Cover tamper

Speed Detect: 0.2M/s±5M/sΔt=1.1°C (0.66 ft/s±16.4 ft/sΔt=2° F)

2.3 Environmental Characteristics

Operating Environment: Indoor use

Operating Temperature: -10 to 60°C (14 to 140°F)

Operating Humidity: 0 to 95% (non-condensing)

RFI Protection: >10 V/m up to 1000 MHz

2.4 Physical Characteristics

Dimensions: 110x64x31.4 mm (4.33 in. x 2.52 in. x 1.24 in.)

Weight: 90 grams (3.175 oz)

Note: The PYR-4122 is an indoor PIR, and should not be used in outdoor applications.

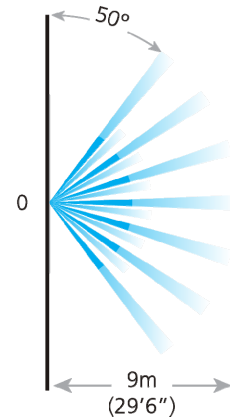


Figure 1: Lens Top View

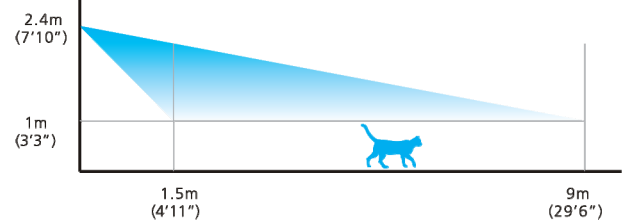


Figure 2: Lens Side View

3. Installation

3.1 False Alarm Reduction Effort

To reduce false alarms caused by detector installation:

- **AVOID:** Placing the PIR facing windows, or in direct sunlight as this heat energy can cause false alarms.
- **AVOID:** Wiring of the PYR-4122 in such a way that it is parallel to or sitting close to 110V AC or 220V AC transmission equipment or mains power line.
- **AVOID:** Placing near or over heat and air ducts, ovens, heat sources, radiators, and air conditioners as this may cause a false detection.
- **AVOID:** Placing near PL lamps, electrical ballasts, above cookers, and ovens, and above steam sources.
- **AVOID:** Placing the detector where the house pet can be within 1.2M (3.9 ft), like a sofa, and less than 5M (16.4 ft) from stairs and such where the animal can climb.
- **NEVER:** Touch the pyroelectric sensor on the PCB as this causes permanent damage and loss of sensitivity.

Important Note: PIR works according to field of view and cannot detect through walls. Avoid placing near obstructions such as large plants, curtains, behind open doors, and continuously moving objects.

3.2 Selecting the Physical Location

Select the best physical location to install the PIR.

- 1) Select a corner or a flat wall within a room or hallway between 1.8 (5.9 ft) and 2.4M (7.8 ft) that best matches the criteria in the False Alarm Reduction Effort, above.
- 2) Ensure that the PIR is mounted on a non-moving, non-vibrating surface, or corner of the room.
- 3) Wire the PYR-4122 as explained in
- 4) Mount the PIR in the desired location.
- 5) After the installation, perform a walk test from the mounting location to ensure that the sensor pattern can detect within the coverage area (see Testing the Detector).

3.3 Wiring the PYR-4122

The PYR-4122 is wired using a terminal block, located on the front of the PCB, with binding posts that are adjusted using a thin Phillips head screwdriver or a flat head screwdriver.

To wire the PYR-4122:

- 1) Open the PYR-4122 casing by unscrewing the security screw located on the bottom of the detector (Figure 4)
- 2) Remove the PCB from the back case.

- 3) Open all the terminal block binding posts
- 4) Connect all the Signaling cables, Tamper, alarm, etc.
- 5) Wire the power supply cables.

Important Note: When laying wires to the control panel ensure that they are not parallel to high voltage mains or other radiation emitting equipment as this may cause false alarms.

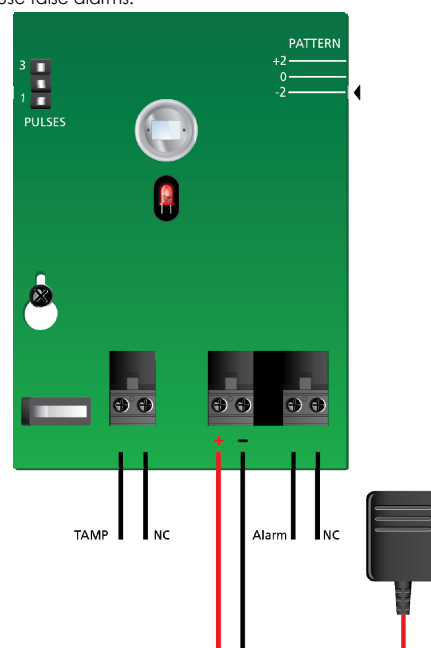


Figure 3: PCB overview and wiring of the PYR-4122

3.4 Mounting the PIR

The PYR-4122 PIR is designed to be mounted onto a flat wall surface or to a corner.

To mount the PIR to a flat surface:

- 1) Open the PYR-4122 casing by unscrewing the security screw located on the bottom of the detector (Figure 4)
- 2) Remove the PCB from the back case.
- 3) Remove the knockouts from the back case by using a sharp tool or using a nail. (see Figure 4)
- 4) Affix the PYR-4122 the wall using screws and wall plugs (not included).
- 5) Place the PCB in the casing and tighten the PCB locking screw.
- 6) Set the jumpers (refer to Jumpers Setting section).
- 7) Close the top cover of the PIR and tighten the security screw.

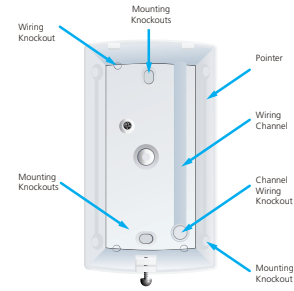


Figure 4: Mounting knockouts and channels

4. Jumpers Setting

4.1 Vertical Calibration

If the PYR-4122 is to be mounted at a height above 2.1 meters (6.89 ft) or below 1.8 meters (5.9 ft), calibrate the PCB position by moving the PCB up or down in the PIR housing accordingly before fixing it. The calibration scale on the PCB and the calibration marker on the PIR housing will help you achieve the optimum calibration setting.

The PCB calibration scale is located on the top right hand side of the PCB (left). The calibration marker is located on the inside of the PIR housing (right).

If mounting the PIR above 2.1 meters (6.89 ft), move the PCB (+) up in the PIR housing so that the calibration marker is parallel to a + scale. This will ensure that the detection area is focused closer to the unit.

If mounting the PIR below 1.8 (5.9 ft) meters, move the PCB down (-) in the PIR housing so that the calibration marker is parallel to a - scale. This will ensure that the detection area is focused further from the unit, therefore maximizing detection range.

Either way, refrain from installing the detector higher than 2.4M (7.87 ft) or lower than 1.8M (5.9 ft) since it will reduce efficiency.

4.2 Setting the Sensitivity (Pulse Counter)

To prevent false alarms caused by house pets or harsh environments, the PYR-4122 has two sensitivity modes designated, based on a programmable pulse counter.

- Medium - for normal usage – Pulse count 3.
This setting provides improved protection against false alarms caused by all types of environmental disturbances.
- High - for harsh environments and where the total pet's weight is more than 18Kg (39.6 lbs) – Pulse count 1.
This setting is for high sensitivity and triggers the PIR on the first pulse. It should be used in high security installations, where the alarm must be activated on the first detected pulse.

The PIR factory setting is Medium – 3 pulses

To set the pulse counter, place the jumper on the desired pulse counter setting

5. Testing the Detector

Following installation it is always wise to test the detector to ensure that the installation location covers the desired area and that the installation was performed properly.

5.1 Walk Test

Evaluate the performance of the detector by executing a 2-minute walk test.

- 1) Ensure all of the settings in the PIR are adjusted as necessary for the location according to the installation instructions above, and that the PIR case is closed and the locking screw is firm.
- 2) Apply power to the unit. Allow 5 minutes for the unit to warm up and stabilize.

- 3) During the walk test the LED flashes every time the detector detects motion. There is a five second wait period before the next detection.
- 4) It is recommended that the installer test the detection by going over the protected area and seeing that the detection pattern is good.
- 5) For pet immune applications, continue the test by sending the pet into the protected area. Make sure it does not trigger the detector by moving across the protected area and by climbing on furniture within that area.
- 6) If necessary, adjust the sensitivity setting and the vertical calibration based on the test results and repeat the test until achieving optimal results.

6. Limited Warranty

ROSSLARE ENTERPRISES LIMITED S (Rosslare) TWO YEAR LIMITED WARRANTY is applicable worldwide. This warranty supersedes any other warranty. Rosslare's TWO YEAR LIMITED WARRANTY is subject to the following conditions:

Warranty

Warranty of Rosslare's products extends to the original purchaser (Customer) of the Rosslare product and is not transferable.

Products Covered By This Warranty and Duration

ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARIES (ROSSLARE) warrants that the PYR-4122 Analog Hardwire Pet Immune Passive Infrared Motion Detector, to be free from defects in materials and assembly in the course of normal use and service. The warranty period commences with the date of shipment to the original purchaser and extends for a period of 2 years (24 Months).

Warranty Remedy Coverage

In the event of a breach of warranty, ROSSLARE will credit Customer with the price of the Product paid by Customer, provided that the warranty claim is delivered to ROSSLARE by the Customer during the warranty period in accordance with the terms of this warranty. Unless otherwise requested by ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARIES representative, return of the failed product(s) is not immediately required.

If ROSSLARE has not contacted the Customer within a sixty (60) day holding period following the delivery of the warranty claim, Customer will not be required to return the failed product(s). All returned Product(s), as may be requested at ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARY'S sole discretion, shall become the property of ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARIES.

To exercise the warranty, the user must contact Rosslare Enterprises Ltd. to obtain an RMA number after which, the product must be returned to the Manufacturer freight prepaid and insured.

In the event ROSSLARE chooses to perform a product evaluation within the sixty (60) day holding period and no defect is found, a minimum US\$ 50.00 or equivalent charge will be applied to each Product for labor required in the evaluation.

Rosslare will repair or replace, at its discretion, any product that under normal conditions of use and service proves to be defective in material or workmanship. No charge will be applied for labor or parts with respect to defects covered by this warranty, provided that the work is done by Rosslare or a Rosslare authorized service center.

Exclusions and Limitations

ROSSLARE shall not be responsible or liable for any damage or loss resulting from the operation or performance of any Product or any systems in which a Product is incorporated. This warranty shall not extend to any ancillary equipment not furnished by ROSSLARE, which is attached to or used in conjunction with a Product, nor to any Product that is used with any ancillary equipment, which is not furnished by ROSSLARE. This warranty does not cover expenses incurred in the transportation, freight cost to the repair center, removal or reinstallation of the product, whether or not proven defective.

Specifically excluded from this warranty are any failures resulting from Customer's improper testing, operation, installation, or damage resulting from use of the Product in other than its normal and customary manner, or any maintenance, modification, alteration, or adjustment or any type of abuse, neglect, accident, misuse, improper operation, normal wear, defects or damage due to lightning or other electrical discharge. This warranty does not cover repair or replacement where normal use has exhausted the life of a part or instrument, or any modification or abuse of, or tampering with, the Product if Product disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim.

ROSSLARE does not warrant the installation, maintenance, or service of the Product. Service life of the product is dependent upon the care it receives and the conditions under which it has to operate. In no event shall Rosslare be liable for incidental or consequential damages.

Limited Warranty Terms

THIS WARRANTY SETS FORTH THE FULL EXTENT OF ROSSLARE ENTERPRISES LTD. AND ITS SUBSIDIARY'S WARRANTY. THE TERMS OF THIS WARRANTY MAY NOT BE VARIED BY ANY PERSON, WHETHER OR NOT PURPORTING TO REPRESENT OR ACT ON BEHALF OF ROSSLARE.

THIS LIMITED WARRANTY IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES. ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE SPECIFICALLY EXCLUDED.

IN NO EVENT SHALL ROSSLARE BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, OR FOR ANY OTHER INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF TIME, COMMERCIAL LOSS, INCONVENIENCE, AND LOSS OF PROFITS, ARISING OUT OF THE INSTALLATION, USE, OR INABILITY TO USE SUCH PRODUCT, TO THE FULLEST EXTENT THAT ANY SUCH LOSS OR DAMAGE MAY BE DISCLAIMED BY LAW. THIS WARRANTY SHALL BECOME NULL AND VOID IN THE EVENT OF A VIOLATION OF THE PROVISIONS OF THIS LIMITED WARRANTY.

7. Contact Information

Asia Pacific, Middle East and Africa

Headquarters:

905-912 Wing Fat Industrial Bldg, 12 Wang Tai Road, Kowloon Bay Hong Kong
Tel:+852 2795-5630 Fax: +852 2795-1508 E-mail: support.apac@rosslaresecurity.com

United States and Canada

1600 Hart Court, Suite 103 Southlake, TX, USA 76092
Toll Free:+1-866-632-1101 Local:+1-817-305-0006 Fax: +1-817-305-0069
E-mail: support.na@rosslaresecurity.com

Europe

Global Technical Support & Training Center:

HaMelecha 22 Rosh HaAyin, Israel 48091
Tel: +972 3 938-6838 Fax: +972 3 938-6830 E-mail: support.eu@rosslaresecurity.com

South America

Presbitero Actis 555, Oficina 31. San Isidro. Buenos Aires. Argentina
Tel: +5411-5273-6383 Tel: +305-921-9919
E-mail: support.la@rosslaresecurity.com

Web Site: www.rosslaresecurity.com

