

## PIR MOTION DETECTOR

### INTRODUCTION

The PIR-2S Passive Infrared Detector is specially designed for providing space protection in a wireless security system. It detects the movement of human body heat within its effective coverage; thus when an intruder crosses or enters the area, the resulting change in infrared energy from the intruder will be detected and an alarm signal will transmit to the Base Unit.

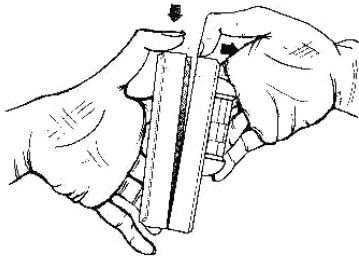


Fig. 1

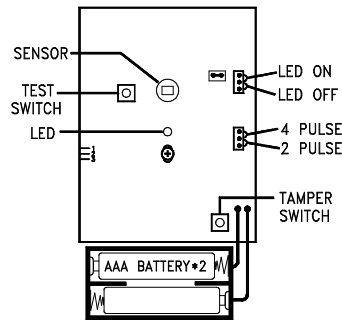
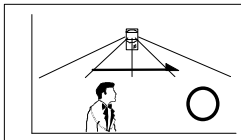
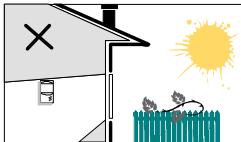


Fig. 2

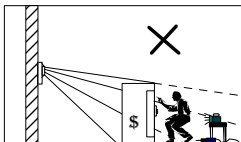
### IMPORTANT NOTE



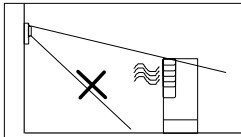
To get the best sensitivity, PIR should be mounted to detect movement of the intruder "across" room, rather than "toward" the detector.



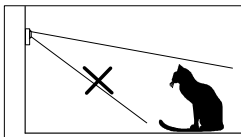
Do not install where the detector faces a window, since movement outside could cause unwanted alarms.



Make sure the detection area does not have obstructions (curtains, screens, large pieces of furniture, plants, etc.) that could block the pattern of coverage.



Avoid placing the sensor in areas containing objects likely to produce a rapid change in temperature, such as central heating radiators or ducts (or heaters of any kind), air conditioners, open flame, etc.



Note that pets can trip sensors and plan sensor placement and pet-restricted areas accordingly.

### INSTALLATION

1. Remove the front cover by holding the base in one hand, and squeezing the top center of back cover with the other hand (Fig.1).

- Insert two AAA alkaline batteries. Select “Installer Mode” on the Base Unit, and enter the Installer Password to gain access authority. Then select \Set Device\Enroll Device\Burglar Sensor\Enter Zone No. to enroll the ID of PIR-2S by pressing its TEST button on the PC board. You may change its various attributes under \Set Device\Change Device Setting\Burglar Sensor Change, to fulfill different requirements.

**Important Notice:** In order to reset the microprocessor properly, before replacing the batteries in the PIR-2S, please press the TEST button for 5 seconds to discharge the energy that remains in the capacitor on the PC board. Otherwise, it may not restart.

- Wait 5 minutes (after power on) for sensor warm-up. Because the PIR-2S is a low-power design, it takes a few minutes to reach stable state.
- Attach the base with the supplied Velcro (or with optional bracket) at a selected location, and make sure the distance between PIR and Base Unit is not over RF transmission range.

**5. WALK TEST**

It is essential to perform a walk test to verify optimum detection coverage. To do this, first hold the “TEST” button on the PIR-2S board down for at least 3 seconds, until the LED turns ON→OFF→ON, then release the button. Afterward, the PIR-2S enters “TEST” mode for 3 minutes. Replace the cover of the PIR-2S, then walk into the detection area at normal speed, observing the LED indicator. The LED stays ON normally, and turns OFF when motion is detected. If the detection pattern is not satisfactory, re-aiming the detector or adjusting the vertical pattern by sliding the PC Board (refer to Table 1) is recommended.

*Notes: 1) Test mode can be terminated before the 3-minutes timeout, by pressing the “TEST” button again until the LED turns OFF. Afterward, it returns to NORMAL mode.*

*2) In NORMAL mode, the PIR-2S activates, the transmitter when it initially detects the first movement, then disables itself. The unit will resume operation only after about 3 minutes with no further detection of movement. In other words, if installed in a heavy traffic area, the PIR-2S will not transmit, until the area has been evacuated for 3 minutes. The purpose of this feature is to reduce power consumption and prolong battery life.*

**6. RADIO LINK TEST**

Open the top cover of the PIR-2S, and press the TEST button on the PC Board to see whether the Base Unit can receive the radio signal.

**7. PULSE COUNT SELECTION**

The PIR-2S is equipped with a programmable pulse counter; that can be set by placing the jumper on the desired setting (2 or 4). The PIR-2S automatically overrides to one-pulse mode while in “TEST” mode.

**2 pulses:** This setting has high sensitivity of detection. Two pulses should be selected when the detection range is longer (over 5m)

**4 pulses:** Alarm signal will only be sent if 4 pulses are detected within approximately 1 minute. This setting provides the maximum protection against false alarms caused by all types of environmental disturbances.

**8. LED ON/OFF SELECTION**

After installation, the user may put LED ON/OFF jumper at OFF position to prevent the PIR from being discovered by an intruder. Nevertheless, the LED is enabled automatically when the PIR-2S is in “TEST” mode, even with the jumper in the OFF position.

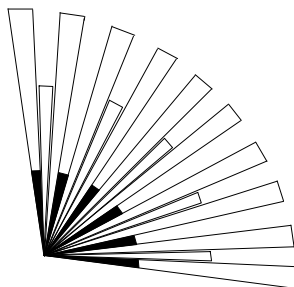
**VERTICAL ADJUSTMENT**

The detection pattern can be adjusted by sliding the PC Board up and down. Usually, adjustment is unnecessary when the PIR-2S is mounted between 1.7 to 2.5 meters from the floor. If the mounting height is out of this range, refer to the following table.

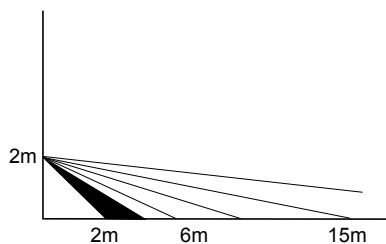
HEIGHT	1-1.6m	1.7-2.5m	2.6-3.2m
SCALE	1	2	3

*Table 1*

**DETECTION PATTERN**



**TOP VIEW**



**SIDE VIEW**

**SPECIFICATIONS:**

Detector Type: dual element

Coverage Angle: 110°

Effective Distance: max. 12m @ambient temp. 25°C

Power: two AAA alkaline batteries

Current: 18uA @standby, 20mA @activation

Estimated Battery Life: 2 years (@actuated 40 times/day)

Pulse Count: 2 or 4 pulses selectable

RF: 915Mhz, less than 10mW

Size: 70.5 x120 x 45 mm

Weight (w/o battery): about 85g

Note: This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no grantee that interference will not occur in a particular installation. If this equipment dose cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## WARRANTY

The Manufacturer warrants its products (hereinafter referred to as the Product) to be in conformance with its own plans and specifications and to be free of defects in materials and workmanship under normal use and service for a period of twelve months from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period. At its option, to repair or replace the Product or and part thereof. To exercise the warranty the Product must be returned to the Manufacturer freight prepaid and insured.

This warranty does not apply in the following cases: improper installation, misuse, failure to follow installation and operating instructions, alteration, abuse, accident or tampering, and repair by anyone other than the manufacturer.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. In no case shall the Manufacturer be liable to anyone for any consequential or incidental damages for breach of this warranty or any other warranties whatsoever, as aforesaid.

This warranty shall apply to the Product only. All Products, accessories or attachments of others used in conjunction with the Products, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to Products, accessories, or attachments of others, including batteries, used in conjunction with the Products.

The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function.

NOTE: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating to conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

