

OUTDOOR PIR MOTION DETECTOR

INTRODUCTION

The PIR-OD1 Passive Infrared Detector is specially designed for providing perimeter protection. It detects the intruder before entering a house, and offers the first line of defense to a property's boundary.

There are two separate sensors in the PIR-OD1, one detects upper area, and the other detects lower area. Only when both sensors detect motion simultaneously, the PIR triggers alarm.

PIR-OD1 is rainproof and can prevent from the false alarm caused by a pet up to 20 kg or 60 cm high.

INSTALLATION

1. Refer to Fig. 1, loosen the screw on the PIR bottom, remove the front cover, and then insert two AA alkaline batteries.
2. Enroll the ID for the PIR, steps as follows,
 - A). select "Installer Mode" on the LS-30 Base Unit and enter the Installer Code to gain access authority.
 - B). select \Set Device\Enroll Device\Burglar Sensor\Enter Zone No.
 - C). activate the PIR to transmit RF ID by placing a magnet closely to the reed sensor of the PIR, refer to Fig. 8.
 - D). if necessary, you can change its various attributes under \Set Device\Change Device Setting\Burglar Sensor Change, to fulfill different requirements.

Remarks: For LS-30 initial installation, it's recommended to use supplied computer software HyperSecureLink since the programming is easier and quicker. Please refer to the "Enroll Device procedure" in HyperSecureLink User Guide.

3. After the PIR power on, wait one minute for the sensors' warm-up.
4. Before mounting the PIR, please refer to Fig 3, 4 & 5 to choose proper location and height for the PIR. The PIR should be mounted to detect majority of traffic flow across the detection pattern.
5. Keep the PIR 1.9 m above the floor (refer to WALK TEST paragraph below and adjust it if necessary), fix the supplied magnet for tamper detection, and then mount the base with four screws at the selected location, finally restore the top cover the PIR. Make sure the distance between the PIR and the Base Unit is within RF transmission range or use a repeater to extend the distance when necessary.

Important notice: It's strongly recommended to mount the PIR-OD1 at the place where the sunlight doesn't shine it directly. Otherwise, the detection angle would become narrower. Additionally the lens would degrade by sunlight and need to replace after 6 or 12 months, depending on sunlight strength and exposed time.

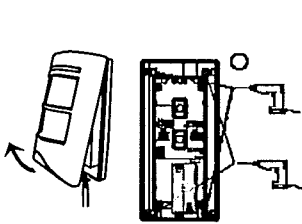


Fig. 1

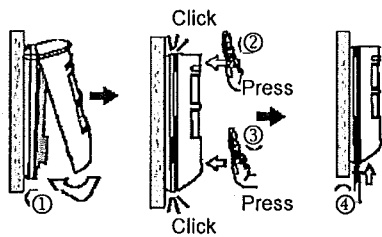


Fig. 2

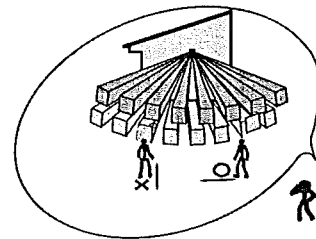


Fig. 3

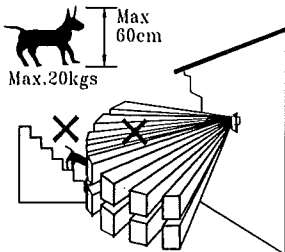


Fig. 4

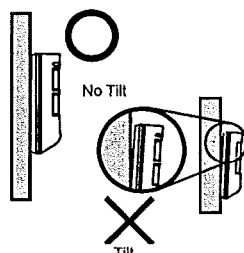


Fig. 5

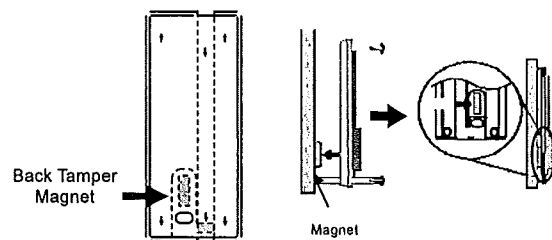


Fig. 6

ABOUT SETTINGS ON PCB

There are two DIP switches and a jumper JP1 on the PC board, each switch has 3 positions. Refer to Fig. 7. Setting description as follows, SW1,

Position 1 (DSF, Direct Sun Filter)

ON: If the PIR would be shined by sunlight directly, this position should be set to ON to reduce the sunlight interference. **Please note the PIR detection angle would become narrower, about 60 degrees, refer to Fig 9. If possible, avoid the location where can be shined by direct sunlight because the PIR reliability would decrease.**

OFF: If the PIR would not be shined by sunlight directly, this position should be set to OFF to get wider detection angle, about 100 degrees.

Position 2 (Alarm LED)

ON: LED would light on when motion is detected and RF transmits.

OFF: LED would keep off when motion is detected and RF transmits. This can prevent the PIR being easily discovered by the intruder. However the LED is enabled automatically when it works in TEST mode.

Position 3: Unused

SW2

Position 1 (Mode)

ON: Only in Walk Test Mode it should be set to ON to check LED response for the two sensors separately.

OFF: It must be set to OFF in NORMAL Mode.

Position 2 (PC, Pulse Count)

ON: PIR triggers alarm only after 3 pulses are detected within about 10 seconds. The detection sensitivity is lower but the reliability becomes higher.

OFF: PIR triggers alarm when 1 pulse is detected, this has higher sensitivity.

Position 3 (Sens, Sensitivity)

ON: Lower detection sensitivity with higher reliability. This is used in harsh environment.

OFF: Higher detection sensitivity with lower reliability. This is recommended when the detection range is over 5 m.

JUMPER JP1,

It must be placed at "OFF" position in Normal Mode; and at "ON" position only in Walk Test mode.

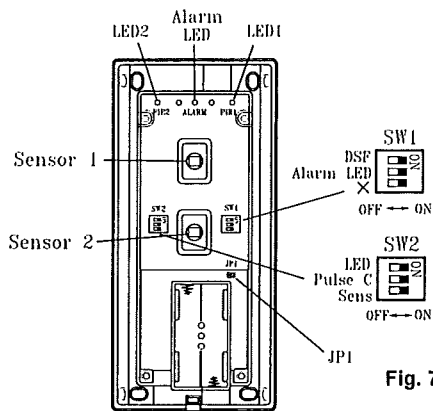


Fig. 7

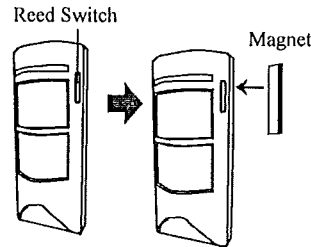


Fig. 8

WALK TEST

It is essential to perform Walk Test to verify the optimum detection coverage of the PIR. Steps as follows,

1. Refer to Fig. 8 for the reed switch location on PIR PCB and place a magnet (you can use the one supplied with Door Sensor) closely to the reed switch, until the LED turns ON→OFF→ON, this takes about 3 or 4 seconds, and then remove the magnet. Afterward the PIR would enter "TEST" mode for 3 minutes.
2. Walk into the detection area at normal speed and observe the Alarm LED (Red) indicator. The LED stays ON normally, and turns OFF when the PIR detects motion.
3. If necessary you can check the detection status of the two sensors by setting jumper JP1 at "ON" position and SW2 position 1 to ON, refer to Fig. 7. Under this condition, the LED1 for sensor 1 and the LED2 for sensor 2 would react independently, and then you can adjust the mounting height to fulfill your detection coverage if needed. Note that only when the two sensors detect motion simultaneously, the PIR triggers alarm.
4. Test mode can be terminated before the 3-minute timeout by placing the magnet closely to the reed switch of the PIR again, and the Alarm LED would turn OFF. The PIR restores to NORMAL mode afterward. In NORMAL mode, the PIR activates the RF transmission when it initially detects movement, and then disables the RF transmission until it has not detected any motion for 3 minutes. In other words, if the PIR is installed in a heavy traffic area, it won't transmit RF signal continuously until the area has been evacuated for 3 minutes. The purpose of this feature is to reduce power consumption and prolong battery life.

RADIO LINK TEST

It's a must to make sure the RF communication with LS-30 base unit is OK after installation. Refer to Fig. 8 and place a magnet closely to the PIR reed switch to activate RF transmission, check if the base unit can receive the radio signal. Also check the RSSI on the LCD of the base unit to assure RF link is secure. You can use a repeater to extend radio range when needed.

PULSE COUNT SELECTION

The PIR-OD1 is equipped with a selectable pulse counter to adapt different environment. It can be selected by placing the jumper on the desired setting. Refer to the SW2 of Fig. 7 and above paragraph "ABOUT SETTING ON PCB".

1 pulse: This setting has higher sensitivity of detection. This should be selected when the detection range is longer (over 5 m)

3 pulses: Alarm is activated only if 3 pulses are detected within approximately 10 seconds. This setting provides the higher protection against false alarms caused by environmental disturbances.

LED ON/OFF SELECTION

To prevent the PIR from being discovered easily by the intruder, LED can be disabled by putting SW1 position 2 at OFF position, see Fig. 7. However the LED would be enabled automatically when the PIR is in "TEST" mode.

DETECTION PATTERN

Refer to Fig. 9

SPECIFICATIONS

Detector Type: dual element

Coverage Angle: 100° @25°C and DSF disabled

Pet Immunity: Up to 20kg, 60cm high

RFI Immunity: Max. 40V/m (10~10000MHZ)

Detectable Speed: 0.3~3m/sec.

Power: two AA alkaline batteries

Current: 40uA @ standby, 15mA @ activation

Estimated Battery Life: 2~3 years (@ actuated 40 times/day)

Pulse Count: 1 or 3 pulses selectable

Recommended Mounting Height: about 1.9 m from the floor.

Working Temperature: -20°C~50°C

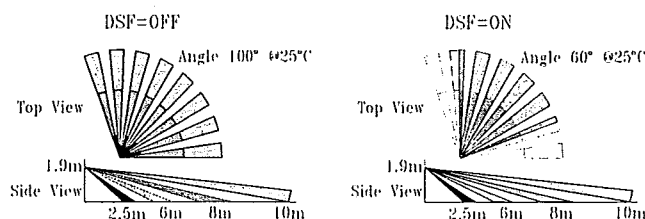


Fig. 9

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.

