



# Wireless Outdoor PIR Detector



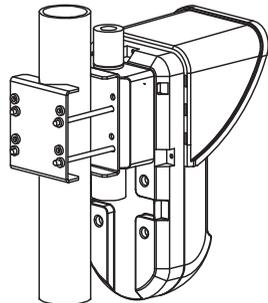
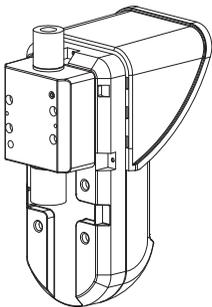
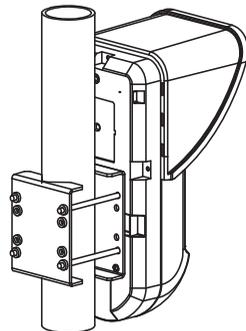
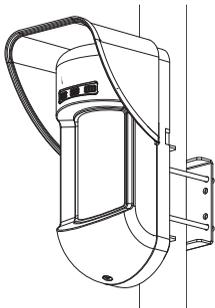
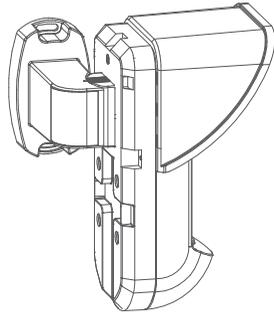
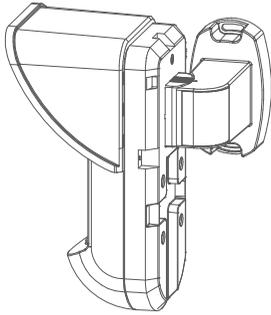
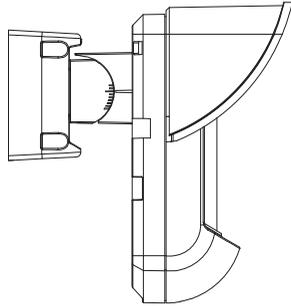
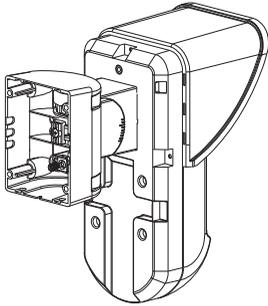
Model: EL-4800  
Installation Instructions



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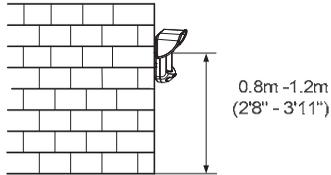
## Introduction

Electronic Line's  Wireless PIR Outdoor Detector is a unique detector with signal processing based on two Passive Infrared (PIR) channels. The detector has an adjustable detection range. The detector is compatible with all Electronic Line's  Wireless and Hybrid systems. The following instructions describe the installation of the  Wireless PIR Outdoor Detector.

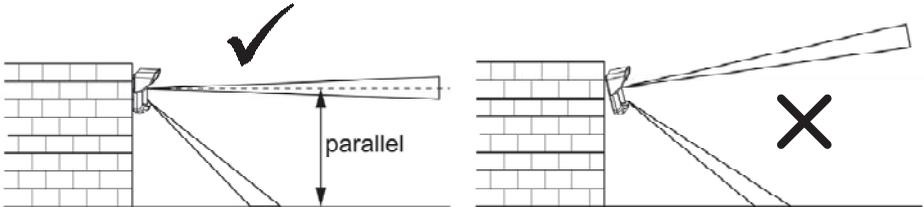
## Mounting

### Mounting Considerations

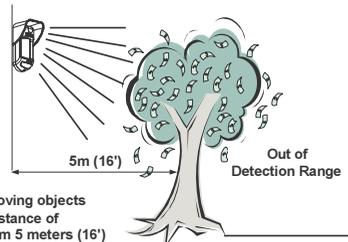
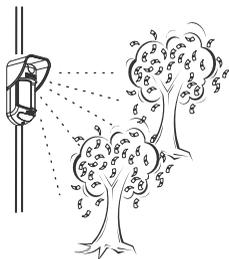
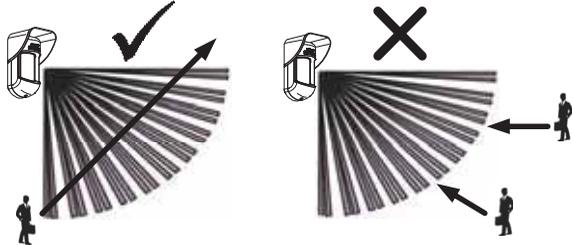
- 1. Installation Height: 0.8m - 1.2m (2'8" - 3'11")  
Typical Installation Height: 1m (3'3")



- 2. To ensure maximum operational reliability, install the detector perpendicular to the ground so that the upper detection area is parallel to the ground.



- 3. For optimum detection, select a location that is likely to intercept an intruder moving across the coverage pattern.



With moving objects  
keep distance of  
minimum 5 meters (16')

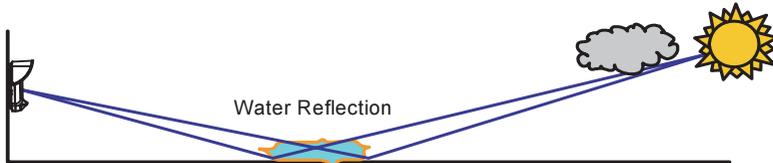
- 4. Avoid pointing the detector to moving objects (swaying trees, bushes etc.)

- 5. Ensure any objects do not obstruct the field of view. Pay attention to growing trees or bushes, plants with big moving leaves etc.

## Installing the Wireless Outdoor PIR Detector in challenging situations

In the following situations, rapid and significant infrared radiation changes can happen in both PIR channels together, resulting in false alarms and therefore care should be taken.

1. Situations in which metal and/or glass objects measuring over 70cm (2'4") in height from the ground are in the field of view of the detector (cars, metal gates, shutters, metal walls, windows, etc.)
2. Situations in which a reflective surface on the ground larger than 1m (3'4") in diameter may cause reflection into the detector's lens. Examples of a reflective surface on the ground are a puddle, wet road or car park, smooth concrete or asphalt surface, swimming pool, etc.



### Notes:

1. Please note that any outdoor PIR detector will require reduction in range to a shorter distance than the car, metal object or surface reflection (so that these objects won't be protected) in order to eliminate false alarms.
2. For full 15m (50') coverage in the above situations, it is highly recommended to install the Wired DT Outdoor Detector, the only outdoor detector with 2 PIR channels and 2 Microwave channels.
3.  Wireless Outdoor PIR detectors include high quality Silicon filters on the PIR sensors for blocking out white light interferences. These filters are not intended to block infrared thermal radiation.

## Wall Mount Installation

### Note:

The installation knockouts numbering are marked on the back plate.

1. Open the  Wireless PIR Outdoor Detector front cover (unlock C1, Figure 1).
2. Release internal base (unlock I1, Figure 2).
3. Select mounting installation as follows:

### Flat Mounting:

Open knockouts on external base (Figure 3).

- B1 - B4: Wall mounting knockouts
- T1: Back tamper knockout

### 45° angle Mounting (Left side mounting):

- a. Open knockouts on external base (Figure 3).
  - L1, L2: Left mounting knockouts
  - T3: Left tamper knockout
- b. Remove tamper spring (Figure 4).
- c. Replace tamper bracket (Item 1) with supplied flat tamper bracket (Item 2).

Item 1



Item 2



- d. Insert Tamper lever B onto T6 and T3 and secure screw A (Figure 3).
4. Secure external base to the wall.
  5. Insert tamper wires through internal base (Figure 4).
  6. Secure internal base to external base (lock I1, Figure 2).
  7. Close the front cover (Lock C1, Figure 1) after wiring and setting DIP switches.
  8. Walk test the detector.

Figure 1

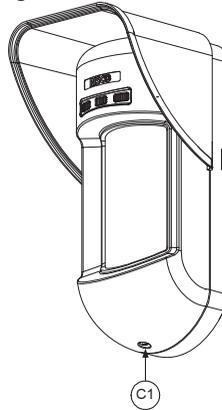


Figure 2

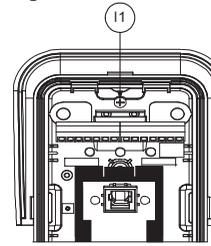


Figure 3

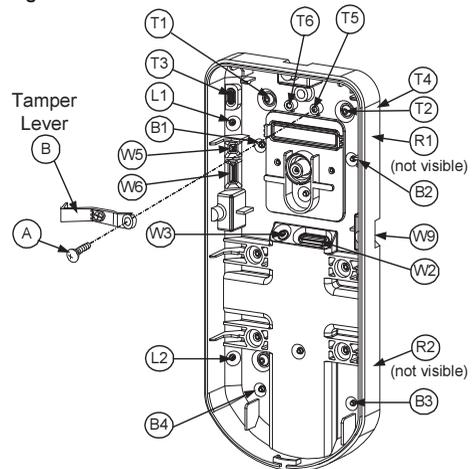
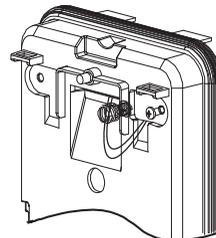


Figure 4



### Note:

For 45° right side installation use the equivalent units on the external base as follows:

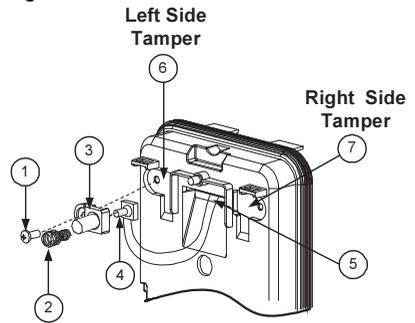
Knockouts Description	Left	Right
Mounting Knockouts	L1, L2	R1, R2
Tamper spring knockouts	T1, T3	T2, T4
Tamper screw anchor	T5	T6

### Changing Back Tamper position:

The back tamper is by default secured on the right side of the internal base (Rear view). If you wish to move it to the left side (rear view), do the following (Figure 5):

1. Remove tamper screw 1 in order to release the tamper from position 7.
2. Ensure tamper spring (2) rests over tamper wire base 4.
3. Ensure plastic tamper bracket (3) rests over both 2 and 4.
4. Secure tamper screw (1) into (3) over position 6.

Figure 5



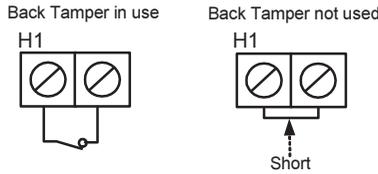
#### Notes:

1. Verify that you hear a "Click" when attaching the tamper spring to the wall.
2. For pole installation, the tamper can be moved to the bottom right-hand side of the internal base.

## Back Tamper Terminal Wiring

If you wish to use the back tamper (recommended) remove the short from the back tamper terminal block and connect the back tamper wires to the back tamper terminal block.

### BACK TAMPER



## Detection Range Adjustment

Slide the moving PIR to the desired position, see figure 6.

The range of the lower detection area determines the detection range. The upper PIR is fixed and its detection area is parallel to the ground at all times. The lower detection area changes from 2m to 12m depending on the location of the moving PIR. Therefore, the detection range is established according to the location of the lower PIR since both the upper and the lower PIR should be triggered in order to activate an alarm.

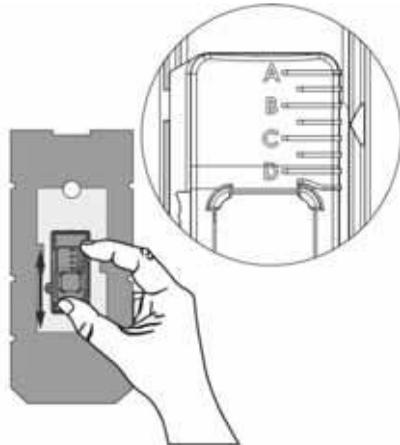
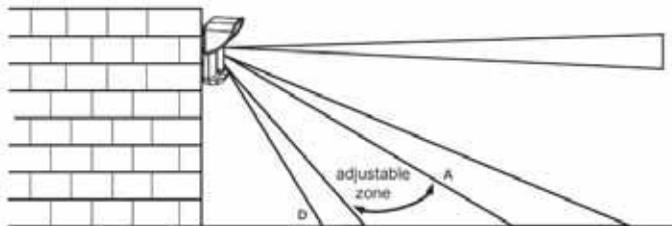
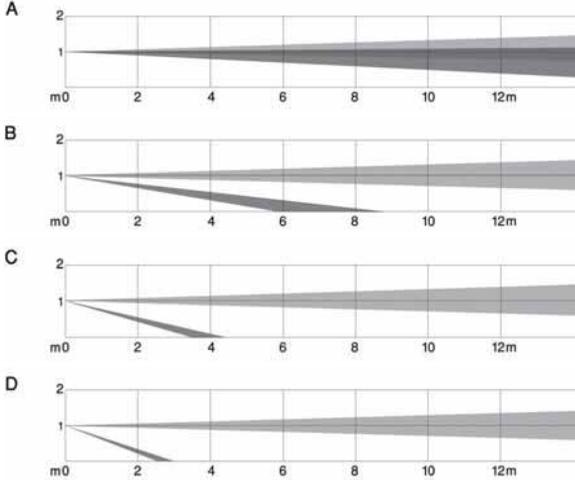


Figure 6



Detection patterns (side view):



Detection range with 1m (3'3") installation height:

POSITION	MAX. DETECTION LENGTH*
A	12m (40')
B	7m (23')
C	3m (9'10")
D	2m (6'6")

\* Note:

Length may vary according to environmental thermal conditions.

Note:

No effective detection occurs at distance less than 2.5 ft from the detector.

## Walk test

Two minutes after applying power, walk test the protected area to verify proper operation. Adjust the moving PIR for required detection range and reliability.

### Important!

Both upper and lower detection areas must be blocked simultaneously for detection to occur, see figure 7 below.

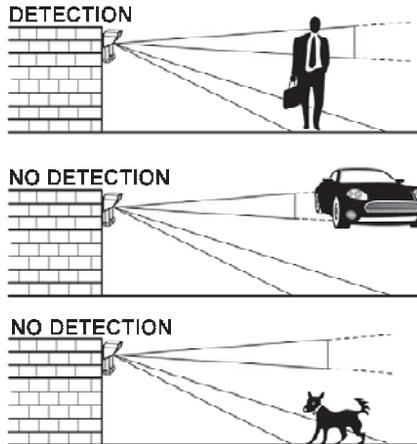


Figure 7

## LED Display

LED	State	Description
RED	Steady	Indicates ALARM

## Operational Modes

Operational Mode	Description
Normal	Dead time (between detection alarms) is 2.5 Minutes.
Test (walk test)	Dead time (between detection alarms) is 3 sec.

### Note:

After power up the detector enters into test mode for a period of 20 minutes (disregarding the DIP Switch Modes Position).

## Transmitter/Receiver Communication link setup

The detector must identify itself to the control panel's receiver by registering its coded message into the receiver's address memory. This is accomplished by performing the following steps:

1. Set the receiver to Registration Mode.
2. Remove the insulation material from the battery and place it in the battery holder on the PCB on the right direction (pay attention to the "+" and "-" diagram on the PCB)
3. Send a registration message by closing both of the tamper switches (back and cover) for at least 3 seconds.
4. Verify that the detector has been identified by the receiver.

### Caution Notice

Changes or modifications not expressly approved by Electronics Line may void the user's authority to operate this equipment.

Simultaneous transmissions from two different units may cause message interference resulting in loss of information.

The communication quality of this unit may be affected by its surrounding environment. Nearby electrical equipment may interfere with its normal operation.

The operation of this unit must, therefore, be tested at each installation since its transmission quality may vary as a result of operational conditions.

## Optional Swivel Installation (Not Supplied)

Please follow the instructions below for mounting the detector with the Swivel:

1. Open the  Wireless PIR Outdoor Detector front cover (Unlock C1, Figure 1).
2. Release internal base (Unlock I1, Figure 2).
3. Remove back tamper from the internal base (see the "Changing Back Tamper Position" paragraph on page **Error! Bookmark not defined.**) and connect it to S5 (Figure 8, Detail A) on the Standard Swivel.
4. Select the mounting installation as follows:

### Note:

- The swivel mount has not been evaluated by UL
- Ensure that you see the engraved **UP** mark on the upper front face of the swivel.

## Wall Mounting

1. Insert back tamper wires through the Swivel Wires Passage (Figure 8, Detail B).
2. Secure swivel to the wall through holes S1, S3, S6 and S8.

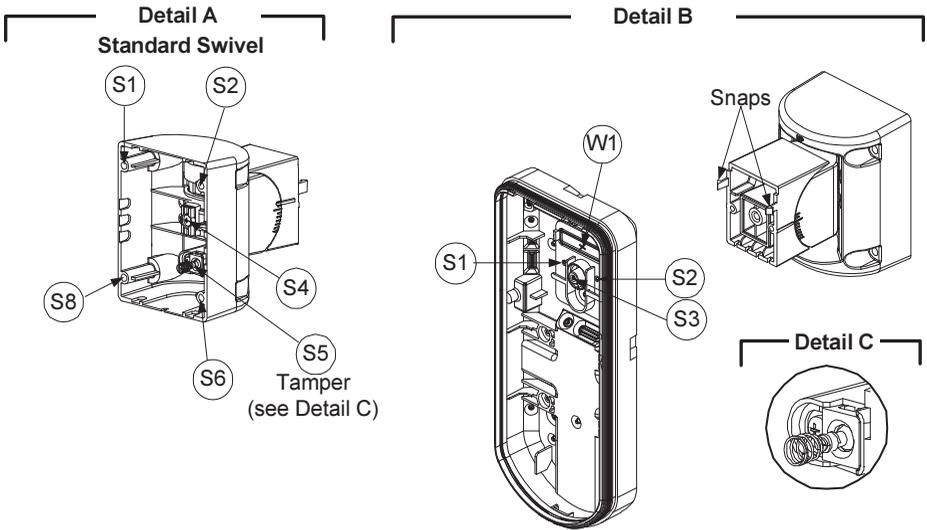


Figure 8

3. Connect the external base to the swivel using the dedicated snaps (Figure 9).

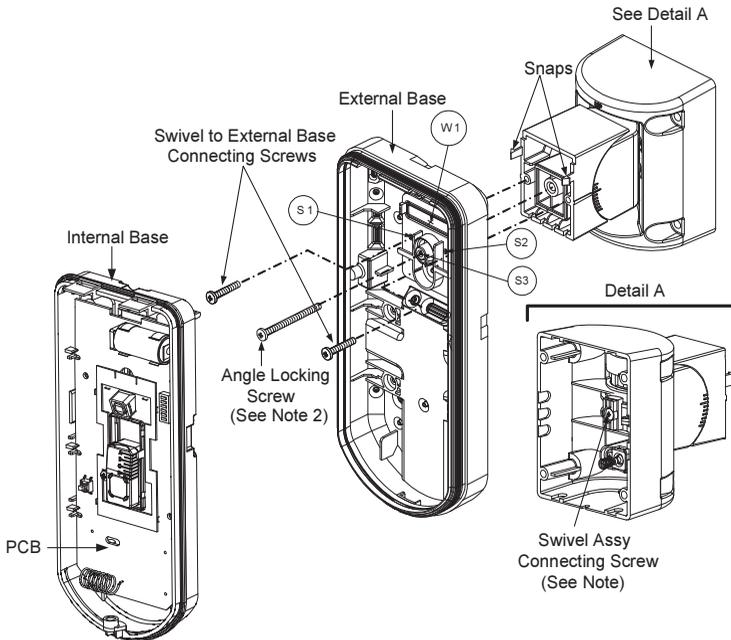


Figure 9

**Note:**

Do not open or close the Swivel Assy Screw since it is used for connecting the swivel parts only (factory tightened).

4. Secure external base to swivel with two screws fastened through knockouts S1 and S2 (Figure 9).

5. Insert the supplied angle locking screw from the external base through the angle locking screw knockout S3 on the external base to the standard swivel (Figure 9).
6. Rotate the Standard Swivel to the desired position. Once the Standard Swivel is in the desired position, secure the angle locking screw.

#### Important!

Take care not to tilt the detector upwards and downwards. The detector should remain perpendicular to the ground for maximum detection and reliability.

7. Line up the internal base onto the external base. Insert tamper wiring through the internal base.
8. Secure internal base to external base (Lock I1, Figure 2).
9. To readjust the Standard Swivel when the PCB is installed (Figure 10):
  - a. Bend down the black foam located below the RED LED on the PCB (enough to reach the Swivel locking screw).
  - b. Use a Hex screwdriver to release the locking screw (see Figure 10).
  - c. Rotate the Swivel to the desired position.
  - d. Secure the angle locking screw.

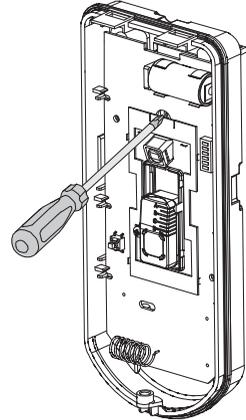


Figure 10: PCB

#### Note:

When marks on the two movable parts are aligned (Figure 9), the Standard Swivel is in 0° vertical/horizontal position. Each click from this position represents shifting of 5° in vertical/horizontal position.

10. Close the front cover (Lock C1, Figure 1) and walk test the detector.

#### Note:

The screw has to pass through the External Base and locked to the swivel.

## Replacing Lenses

1. Unlock the six screws that hold the lens holding sleeve from the back of the front cover.
2. To release the protective sleeve, gently push the lens from the external side of the front cover.
3. Disconnect the lens from the sleeve by gently pushing the lens clips that secure it to the sleeve.
4. Replace the lens. Place the 4 clips of the lens into the matching holes on the sleeve.
5. Insert the protective sleeve back into place on the front cover. Pay attention to place the sleeve over the sealing rubber.
6. Secure the 6 holding screws back to their place.

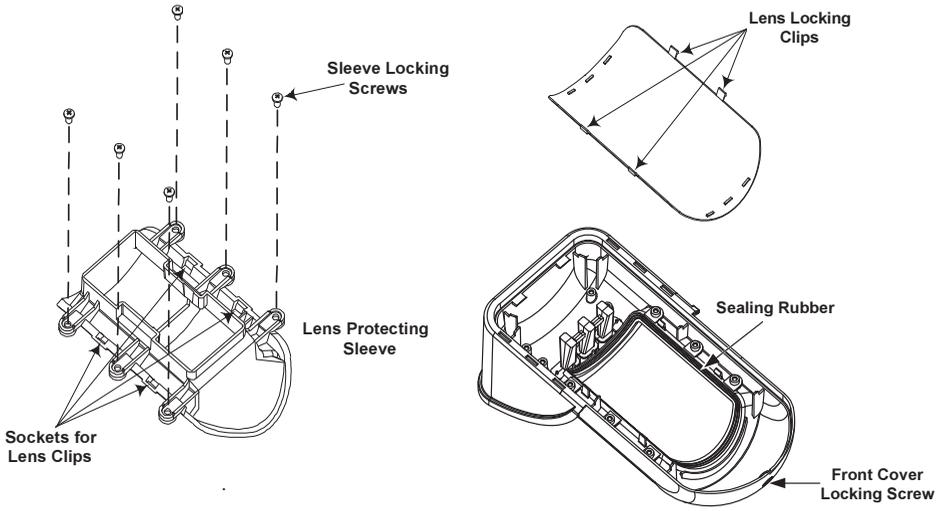


Figure 11

## Technical Specification

Electrical	
Current consumption (standby)	20uA at 3 VDC (average)
Current consumption (Alarm transmission)	43mA at 3 VDC (Max. with LED OFF)
	53mA at 3 VDC (Max. with LED ON)
Dead time (Normal Mode)	2.5 minutes
Battery life	3 years (upon usage)
Supervision transmission	Every 10 minutes
Range	300m (1000 feet) Line of Sight
Battery	2 x CR123A 3VDC Lithium Battery *Use only the following CR123A batteries: DURACELL DL123A, GP GPCR123A, PANASONIC CR123A, SANYO CR123A, VARTA CR123A, EVE Energy CR123A
Frequency	433.92 / 868.65MHz
Physical	
Size (LxWxD)	230 x 121 x 123mm (9 x 4.76 x 4.85 in.)
Environmental	
Operating/Storage temperature	-25°C to 60°C (-13°F to 140°F)
*PIR technology is limited in harsh environmental conditions.	
RF immunity	According to EN50130-4

\*Specifications are subject to change without prior notice.

