

## PIR Motion Sensor (EAS/BM8/I)

The PIR picks up movements within an assigned area and signals the Control Panel to activate the alarm if an intruder crosses its' path of detection.

The PIR consists of a two-part design made up of a cover and a base. The cover contains all the electronics and optics and the base provides a means of fixing. The base has knockouts to allow mounting on either a flat surface or in a corner situation with fixing screws and plugs provided.

Provision for a tamper switch that will be activated when the cover is detached from the base prevents unauthorized access and removal from the mounting surface. The PIR can also alert you to signal communication problems and low battery situations.

The PIR is designed to give a typical detection range of 12 meters when mounted at 2 meters above ground.

### ● **Identifying the parts.**

Remove the cover by loosening the button fixing screw, the inside of the PIR will revealed as shown.

#### 1 Learn/Test Button

This button is used for testing the radio performance and for learning purpose.

#### 2 Tamper Switch

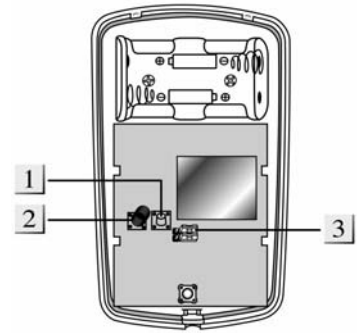
The Tamper switch protects the enclosure from being opened.

#### 3 Test/Normal Mode Jumper Switch (JP1)

It is a 3-pin jumper switch

If the jumper link is inserted between the left 2 pins, the PIR is in Test mode.

If the jumper link is inserted between the right 2 pins, the PIR is in Normal operation mode.



### ● **Supervision Function**

When the PIR is in Normal operation mode it will conduct a Self-test Periodically by transmit a supervisory signal once every 50 sec to 90 sec.

If the Control Panel can't receive the Supervisory signals transmitted from a certain PIR, an "Out-Of-Order" fault message will be generated.

### ● **Sleep Timer**

The PIR has a "sleep time" of approximately 1 minute to conserve power. After transmitting a detected movement, the PIR will not retransmit for 1 minute; any further movement detected during this sleep period will extend the sleep time by another minute. In this way continuous movement in front of a PIR will not unduly exhaust the battery.

### ● **Test mode**

The PIR can be put into Test mode by inserting the jumper link between the left two pins of the Test mode jumper switch. In Test mode, it will disable the sleep timer and will enable the LED indicator to flash every time a movement is detected.

#### <NOTE>

☞ The jumper must not be left in this position in normal use; otherwise battery life will be shortened and the local low battery display will not be able to be seen.

### ● **LED Indicator**

There is a LED Indicator behind the lens on the right upper corner. In Normal operation mode, the LED Indicator will not light except in the following situations:

- When the PIR is in low battery condition, every time it transmits a detected movement, the LED will flash for about 2 seconds.
- When the cover is opened and the tamper switch is violated, the LED will flash for 2 sec. to indicate it is transmitting the "Tamper" signal.
- When the Tamper condition persists, every time it transmits a detected movement, the LED will flash.

However, if the PIR is in Test mode, the LED will flash every time a movement is detected.

### ● **Battery**

The PIR use two 1.5V "AA" alkaline batteries as its power source. The PIR will have a typical battery life of over 2 years at an average of 50 activations a day.

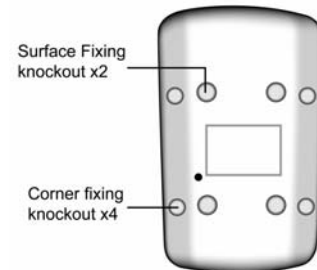
Low battery detection operates at a threshold of 2.2V+/-10% where the PIR has enough reserve energy to typically operate for 1 month before complete exhaustion. The low battery signal will be sent to the Control Panel along with regular signal transmissions for the Control Panel to display the status accordingly.

## ● Getting Started

- Remove the fixing screw and cover assembly.
- Insert the two “AA” batteries into the battery holder taking care to connect the polarity correctly.
- The LED indicator steadily flashes for 30 seconds. (The PIR is warming up). During the warming period, the PIR will not be activated. It is recommended that you stay away from the detection area during this time. After the warming period is over, the light will turn off and the PIR will be ready for operation.
- Put the system in Learn mode and learn-in the PIR by pressing the Learn/Test button. Please refer to section “Add/Delete Device” in the operation manual of the Control Panel.
- After the PIR is learnt-in, put the Control Panel into “Walk Test” mode, hold the PIR in the desired location, press the Test button to confirm this location is within signal range of the Control Panel.
- When you are satisfied that the PIR work in the chosen location, you can proceed with installation.

## ● Mounting Method

- The PIR is designed to be mounted on either a flat surface or in a corner situation with fixing screws and plugs provided.
- The base has knockouts, where the plastic is thinner, for mounting purpose. Two knockouts are for surface fixing and four knockouts are for corner fixing as shown below.
- To mount the PIR, break through the appropriate knockout. Using the holes as a template, drill holes in the surface, insert the wall plugs if fixing into plaster or brick.



## ● Installation

- Decide on the location of the PIR and if it is to be corner or surface mounted.
- Ensure the Test/Normal mode jumper switch (JP1) is in Test mode position by inserting the jumper link between the left two pins of the jumper switch. This is to disable the Sleep timer and enable the LED indicator to flash every time movement is detected.
- Screw the base to the wall.
- Screw the cover on.
- Walk around the protected area noting when the LED flashes and check that the detection coverage is adequate.
- When you are satisfied with the detection coverage, remove the PIR, place the jumper (JP1) in the Normal mode (put the jumper link between right 2 pins).
- Screw the PIR back on to its base Installation is now completed.

## ● Installation Recommendations

- **It is recommended to install the PIR in the following locations.**
  - In a position such that an intruder would normally move across the PIR’s field of view.
  - Between 2 and 2.5m above ground for best performance.
  - In a corner to give the widest view.
  - Where its field of view will not be obstructed e.g. by curtains, ornaments etc.
- **Limitations**
  - Do not position a PIR to look directly at a door protected by a Door Contact, this could cause the Door Contact and PIR radio signals to be transmitted at the same instant when entering, canceling each other out.
  - Do not install the PIR completely exposed to direct sunlight.
  - Avoid installing the PIR in areas where devices may cause rapid change of temperature in the detection area, i.e. air conditioner, heaters, etc.
  - Avoid large obstacles in the detection area.
  - Not pointing directly at sources of heat e.g. fires or boilers, and not above radiators.
  - Avoid moving objects in the detection area i.e. curtain, wall hanging etc.