

## INSTALLATION INSTRUCTIONS

### A guide for qualified electricians

#### TECHNICAL INFORMATION:

- Voltage: 230VAC 50Hz.
- Fuse rating: Type 50F, 6.3A/250VAC, 5 x 20mm.
- Wattage: Max.1000W for incandescent load.
- Wattage: Max. 300W for fluorescent load.
- Wattage: Max. 200W LED (no more than 8 lights).
- Detection angle: approx. 110°.
- Detection distance: Max. 12 metres.
- Duration time: from (10±5) seconds up to (4±1) minutes adjustable.
- Lux control level: from daylight to night adjustable.
- IP44 rating.

#### CLEANING:

Clean this fitting only with a soft dry cloth.  
Do not use any chemical or abrasive cleaners.

#### IF YOU EXPERIENCE PROBLEMS:

If you believe your product is defective, please return it to the place where you bought it. Our Technical Team will gladly advise on any Eterna Lighting product, but may not be able to give specific instructions regarding individual installations.

#### EVENTUALLY, YOU MAY WANT TO REPLACE THIS PRODUCT:

Regulations require the recycling of Waste from Electrical and Electronic Equipment (European "WEEE Directive" effective August 2005—UK WEEE Regulations effective 2nd January 2007). Environment Agency Registered Producer: WEE/GA0248QZ.

WHEN YOUR PRODUCT COMES TO THE END OF ITS LIFE OR YOU CHOOSE TO REPLACE IT, PLEASE RECYCLE IT WHERE FACILITIES EXIST - DO NOT DISPOSE WITH HOUSEHOLD WASTE.



#### Pack contents:

- 1 x Fitting
- 1 x Screw pack

## Model: PIR110BK / PIR110WH

### External 110° PIR Detector

These instructions are provided as a guideline to assist you.

**PLEASE READ THESE INSTRUCTIONS BEFORE INSTALLATION  
AND RETAIN FOR FUTURE REFERENCE**



Email: [sales@eterna-lighting.co.uk](mailto:sales@eterna-lighting.co.uk) / [technical@eterna-lighting.co.uk](mailto:technical@eterna-lighting.co.uk)

Visit our website: [www.eterna-lighting.co.uk](http://www.eterna-lighting.co.uk)

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## READ THIS FIRST:

Check the pack and make sure you have all of the parts listed on the front of this booklet. If not, contact the outlet where you bought this product.

**This product must be installed by a competent person in accordance with the current building and IEE wiring regulations.**

As the buyer, installer and/or user of this product it is your own responsibility to ensure that this sensor unit is fit for the purpose for which you have intended it. Eterna Lighting cannot accept any liability for loss, damage or premature failure resulting from inappropriate use.

Switch off the mains before commencing installation and remove the appropriate circuit fuse or lock off MCB.

This unit is suitable for outdoor use.

This product is designed for permanent connection to fixed wiring: this must be a suitable circuit (protected with the appropriate MCB or fuse).

Before making fixing hole(s), check that there are no obstructions hidden beneath the mounting surface such as pipes or cables.

When making connections ensure that the terminals are tightened securely and that no strands of wire protrude. Check that the terminals are tightened onto the bared conductors and not onto any insulation.

This fitting is double insulated and does not require an earth (however there is an earth post for earth continuity).

This product is not intended to be used by children and persons with sensory, physical and/or mental impairments that would prevent them from using it safely.

You are advised at every stage of your installation to double-check any electrical connections you have made. After you have completed your installation there are electrical tests that should be carried out, these tests are specified in the current IEE wiring and building regulations.

## INTRODUCTION:

The PIR (passive infra red) sensing device continuously scans a preset operating zone and immediately switches the load-light on when it detects movement in that area.

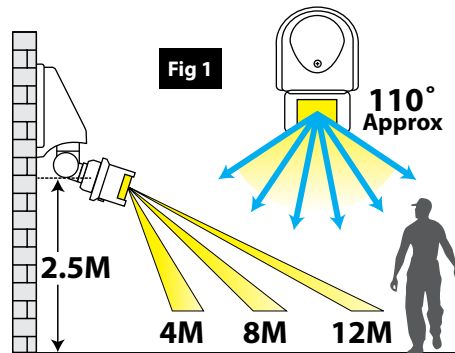
This means that whenever movement is detected within the range of the sensor the load-light will switch on automatically to illuminate whatever area you have selected to light. While there is movement within range of the unit the load light will remain on.

## WHERE TO FIT YOUR PIR SENSOR:

To achieve best results we suggest you take the following points into consideration:

**Do not mount on a surface that has vibration.**

Ideally the PIR sensor should be mounted 1.8 to 2.5 metres (6 to 8ft) above the area to be scanned (refer to Fig.1 below).



To avoid damage to the unit do not aim sensor towards sun.

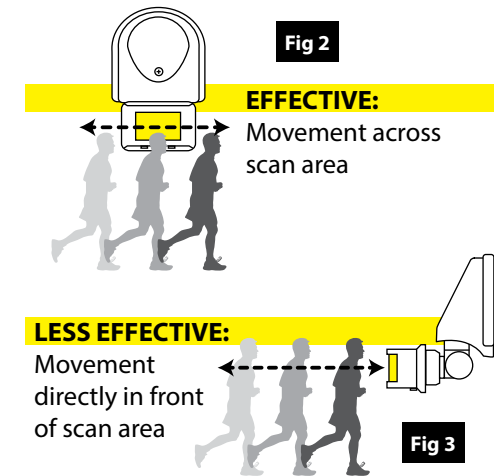
Avoid positioning the sensor unit adjacent to a bright light source which may prevent the unit from operating when the lux control is set to operate in dark conditions.

Avoid nuisance false triggering by directing sensor away from:

Trees and shrubs  
Reflective surfaces such as smooth white walls  
Swimming pools  
Heat sources such as boiler flues

The PIR sensor scanning specifications (approximately 12 metres at 110°) may vary slightly depending on the mounting height and location. The detection range of the unit may also alter with temperature change.

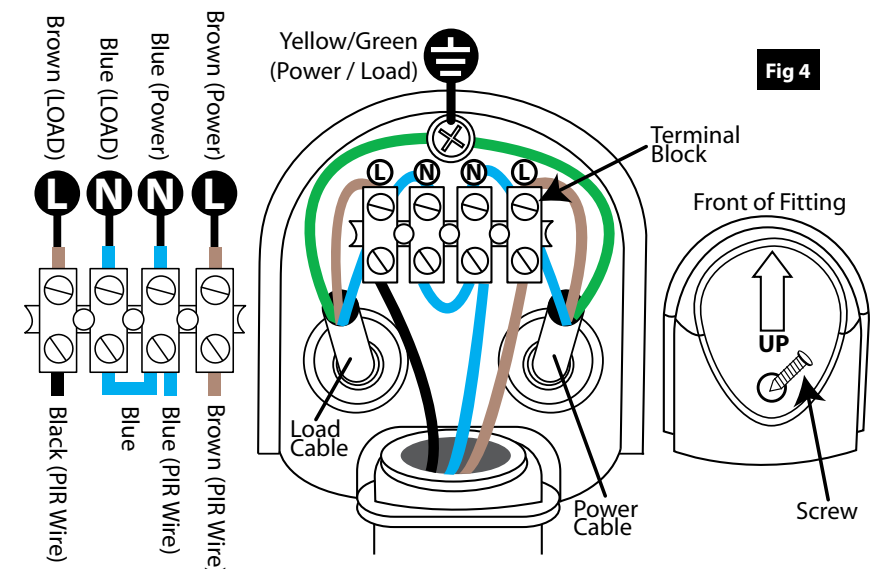
Before selecting a place to install your PIR sensor you should note that movement across the scan area is more effective than movement directly towards or away from the sensor (refer to Fig.2 opposite). If movement is made walking directly towards or away from the sensor and not across the sensor apparent detection range will be substantially reduced (refer to Fig. 3 opposite).



## INSTALLATION:

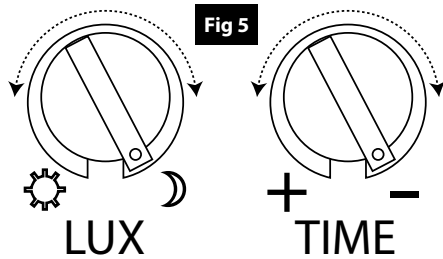
When installing the PIR sensor please refer to Fig. 4 below.

1. Switch off the mains before commencing installation.
2. Unscrew and remove the junction box cover.
3. Fix the unit to the mounting surface with the screw supplied, we recommend the unit should be fixed a minimum distance of 2.5 metres above the ground, noting the mounting direction on the plastic cover. (See Fig. 1 opposite).
4. Connect the power cable and load cable to the terminal block as show in Fig. 4 below. **NOTE:** 3 core 6A/230VAC cable, not less than 1.5mm<sup>2</sup> diameter not included. The cable must pass through the rubber grommet.
5. Close the cover and tighten the screw.
6. Restore mains power adjusting the PIR Sensor to desired working requirements.



## UNDERSTANDING THE CONTROLS:

(Referring to Fig. 5 below)



**ADJUSTING THE DURATION TIME:** the length of time that remains switched on after activation can be adjusted from (10±5) seconds to (4±1) minutes; rotating the TIME knob from (+) to (-) will reduce the duration time.

**NOTE:** Once the load-light has been triggered by the PIR sensor any subsequent detection will start the timed period again from the beginning.

**ADJUSTING THE LUX CONTROL LEVEL:** the lux control module has a built-in sensing device (photocell) that detects daylight and darkness. Rotating the LUX knob clockwise from light (☀) to dark (🌙):

The (☀) position denotes that the unit can work at day and night.

The (🌙) position denotes that the unit only works at night.

You can set the PIR to operate the unit at the desired level by adjusting the LUX knob.

## SETTING THE CONTROLS:

- 1) Put the LUX control knob to light (☀) position, turn the power on and wait half a minute for the control circuit to stabilize. At this stage ensure that the TIME control knob is set at minimum duration time (-) position (rotating the TIME knob clockwise to stop-position). The load-light will now switch on and remain on for about 30 seconds.
- 2) Direct the sensor toward the desired area to be scanned by adjusting the swivel joint on the sensor arm.
- 3) Have another person move across the centre of the area to be scanned and slowly adjust the angle of the sensor arm until the unit senses the presence of the moving person, causing the load-light to switch on (refer to Fig. 2).
- 4) Adjust time control to required setting.
- 5) To set the light level at which the load-light will automatically switch "on" at night, turn the LUX control knob from daylight (☀) to night (🌙). If the load-light is required to switch on earlier, e.g. dusk, wait for the desired light level, then slowly turn the LUX control knob towards daylight while someone walks across the centre of the area to be detected. When the load-light switches on, release the LUX control knob. You may need to make further adjustments to achieve your ideal light level setting.

**Important: To avoid dust build-up and ensure proper functioning of the PIR Sensor, please wipe the sensor lens lightly with a dry cloth every 3 months.**

## TROUBLESHOOTING AND USER HINTS:

**Note:** all passive infra red detectors are more sensitive in cold and dry weather than warm and wet weather.

| PROBLEM  | POSSIBLE CAUSE  | SUGGESTED REMEDY  |
|--|---|---|
| Light does not switch on when there is movement in the detection area.           | 1. No mains voltage   | Check all connections, and MCB Fuses / switches   |
|  | 2. Nearby lighting is too bright  | Redirect sensor or relocate the unit  |
|  | 3. Controls set incorrectly   | Readjust sensor angle or control knob   |
|  | 4. Lamp blown   | Check lamp functions and replace if necessary   |
|  | 5. Lamp not fitted correctly  | Make sure the lamp is correctly seated in the lampholder  |
|  | 6. Wired incorrectly  | Check wiring and confirm its wired as per the wiring diagram  |
|  | 7. Sensor positioned in wrong direction   | Adjust angle and direction of PIR for best results walk across beam   |
| Light switches on for no apparent reason (false trigger)                         | 1. Heat from lamp body activating sensor  | Adjust PIR sensor or floodlight to allow a minimum gap of 40mm between floodlight body and sensor head  |
|  | 2. Heat sources such as air-con, vents, heaters, flues, other outside lighting, moving cars trees or shrubs are activating sensor   | Adjust direction of sensor head away from these sources   |
|  | 3. Animals / birds activating sensor  | Redirecting sensor head may help  |
|  | 4. Interference from on/off switching of electric fans or lights on the same circuit as your security floodlight.<br><br>(This problem does not always occur but a faulty switch or noisy fluorescent light may cause the security floodlight to switch on) | Should the false triggering become, troublesome, consider:<br>(a) Replacing a faulty switch<br>(b) Replacing noisy fluorescent tubes and/or starters<br>(c) Connecting the floodlight to a separate circuit (in most cases where one or more of the above suggestions have been carried out, false triggering has been reduced) |
|  | 5. Reflection from swimming pool, or reflective surface such as smooth white walls  | Redirect sensor   |
| Light remains on   | 1. Continuously false triggered   | Redirecting sensor head may help  |
|  | 2. Time is set to long  | Reduce time   |
| Light remains on at nighttime  | Possible heat source in detection zone  | Cover PIR sensor lens with a thick cloth, if the light turns off check detection area for heat or reflective source, reposition head  |
| Light switches on during daylight hours  | LUX control knob is set to daylight position  | Turn the LUX control knob to desired light level setting  |
| When setting the lux controls in daylight the detection distance becomes shorter | Interference by sunlight  | Re-test at night  |