

# PIR Motion Detector

E-700



V2.0 - 02/05  
IQ-140-B

**IQ Europe Limited**  
Sandbeck Lane, Wetherby LS22 7TW.  
Visit us at [www.iq-europe.co.uk](http://www.iq-europe.co.uk)  
Installation helpline 0871 717 1100

**INSTALLER GUIDE**

#### MANUFACTURER'S EXTENDED WARRANTY

In addition to your statutory rights relating to this product it is also guaranteed by IQ (Europe) Limited ("IQ") for 12 months from the date of purchase against faulty materials or workmanship which affect its designed ability to detect or switch. During this period if the product has a defect of this nature it will be repaired or replaced free of charge by IQ with the same item, or a similar one of higher specification, ON CONDITION THAT:-

The buyer takes advantage of any 'return to store' scheme operated by the seller from whom it is bought.

If the product has a defect outside the period of any seller's 'return to store' scheme it should be returned to **IQ (Europe) Limited at Sandbeck Lane, Wetherby, W. Yorks LS22 7TW, England** at the expense of the buyer together with evidence of the date of purchase (it is the responsibility of the buyer to prove delivery to IQ).

The product has been bought by the user.

The product has not been misused or handled carelessly, installed incorrectly, or used on a voltage supply other than that shown on it.

Repairs have not been attempted by anyone other than IQ's staff.

The product has been used for domestic purposes only.

The product has not been installed in any unusually exposed or harsh environmental conditions.

If the buyer is resident in the EU the product or its replacement will be returned to the buyer at the expense of IQ.

This guarantee excludes liability for discolouration of paint or plastic, or any user replaceable parts and in particular lamps, glass panels, or globes/lanterns. It does not confer any rights other than those expressly set out above and does not cover any claims for consequential loss or damage.

This guarantee is offered as an additional benefit and does not affect your statutory rights as a consumer.

This contract is subject to the laws of England and Wales.

**\*\*\* IMPORTANT \*\*\***

As of 1 January 2005, changes to the Building Regulations affect domestic electrical installations in England and Wales. You don't need to be a qualified electrician to make changes to your home's electrical system, but the work must be done in accordance with the Regulations.

Where you employ an electrician who is a member of a competent person self-certification scheme, they will be able to certify the work complies with the Regulations.

If you decide to carry out the work yourself we recommend that you make yourself aware of the Regulations before you begin and if you require any clarification you should contact your Local Authority Building Control Department.

Details of the Building Regulations can be obtained on the internet via the government website [www.odpm.gov.uk/explanatory-booklet](http://www.odpm.gov.uk/explanatory-booklet)

## **SECTION ONE**

### **GENERAL INFORMATION**

The unit utilises passive infrared technology to detect heat radiation of moving human bodies. Upon detection, the attached lighting load will illuminate for a user-determined time period. An integral daylight sensor ensures night-only operation.

#### **PARTS INCLUDED**

- PIR Sensor unit.
- Instruction manual. Please keep safe for future reference.
- Accessory Pack.

#### **TOOLS & PARTS NEEDED**

- 3 core flexible cable
- Electric/hand-held drill & bits.
- Terminal or Electricians screwdriver
- Large slotted/philips screwdriver
- Wire cutters

This product is suitable for wall or ceiling mount.  
Lighting loads connected must not exceed maximum 2000W tungsten halogen, 1000W incandescent or 500W fluorescent. If it is intended to use this product with compact fluorescent energy saving lamps, we suggest the TIME setting is set to a minimum of 3 minutes.  
Do not attempt to install during wet weather, if you are suffering from nausea or dizzy spells or on medication with similar side effects. If in any doubt, consult a qualified tradesperson or electrician.

## **SECTION TWO**

### **SELECTING THE LOCATION**

The motion detector has a number of detection zones, at various vertical and horizontal angles as shown (see diagram A).

A moving human body needs to cross/enter one of these zones to activate the sensor. The best all-round coverage is achieved with the unit mounted at the optimum height of 2.5m.

Careful positioning of the sensor will be required to ensure optimum performance. See diagram A detailing detection range and direction.

The sensor is more sensitive to movement ACROSS its field of vision than to movement directly TOWARDS (see diagram B). Therefore position the unit so that the sensor looks ACROSS the likely approach path.

Avoid positioning the sensor where there are any sources of heat in the detection area (extractor fans, tumble dryer exhausts etc.) including opposite any other light sources such as other security lights.

Reflective surfaces (ie pools of water or white-painted walls) and overhanging branches may cause false activation under extreme conditions.

During extreme weather conditions the motion sensor may exhibit unusual behaviour. This does not indicate a fault with the sensor. Once normal weather conditions return, the sensor will resume normal operation.

#### **LIGHT POLLUTION**

To reduce the risk of light pollution, consider the following when installing the unit.

Position the unit to ensure that the light emitted does not encroach onto neighbouring properties.

Angle the floodlight downward to focus the illumination onto the ground, not into the sky.

Consider using a lower wattage bulb (200W, 300W) to save energy and reduce high light output if not required.

**SECTION THREE  
INSTALLATION**

After choosing a suitable location (see previous section) install the unit as follows:

The unit is suitable for connection to a 240 V ac 50Hz electricity supply. It is suggested that 3-core round flexible cable of 1mm<sup>2</sup> gauge is used. An internal switch should be installed to switch the power to the unit ON & OFF. This allows the sensor to be easily switched off when not required or for maintenance purposes.

Remove the wiring box cover using a terminal screwdriver to release the clips on either side of the cover.

Mark the position of the fitting holes.

Drill the holes. Insert the rawl plugs into the holes.

**PIERCE & PASS THE CABLE(S) THROUGH THE GROMMET(S) BEFORE PROCEEDING.**

It is recommended that the grommet is pierced with a screwdriver to ensure a better seal.


Attach the mounting plate to the wall using suitable screws. Do not overtighten the mounting screws as this could damage the mounting plate.

**\*\*\* IMPORTANT \*\*\***


**Switch off the electricity at the fuse box by removing the relevant fuse or switching off the circuit breaker before proceeding with the installation.**

**CONNECTION**

Connect the **mains supply cable** to the terminal block on the unit as follows (see connection diagram):

NEUTRAL (Blue)      N  
 EARTH (Green/Yellow)        
 LIVE (Brown)      L

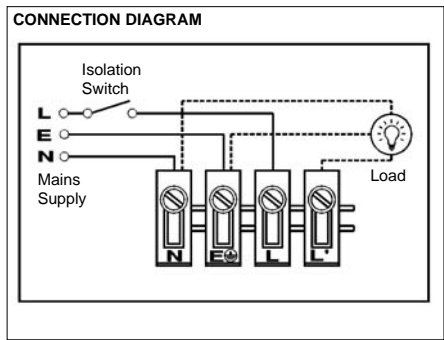
Connect the  **cable from the lighting load** to the terminal block on the unit as follows (see connection diagram):

NEUTRAL (Blue)      N  
 EARTH (Green/Yellow)        
 LIVE (White)      L

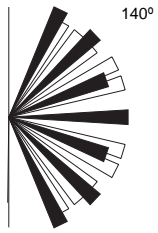
Ensure that all connections are secure.

Re-attach the wiring box cover, ensuring a weatherproof seal is obtained.

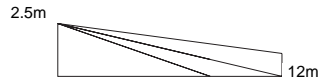
**If the ceiling mount option is utilised, ensure the PIR head is rotated through 180° so that the adjustment controls are in a downward facing orientation.**



TOP VIEW

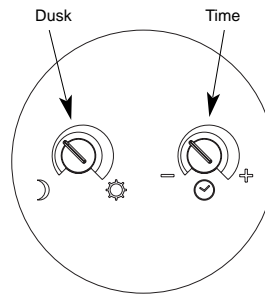


SIDE VIEW



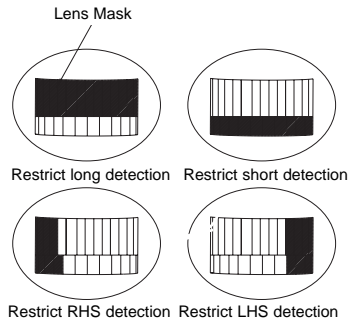
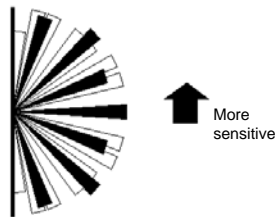
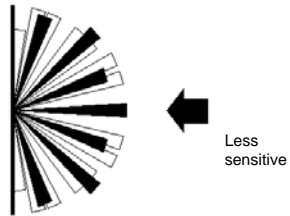
A

C



B

D



## **SECTION FOUR**

### **OPERATION AND TESTING**

#### **WALK TESTING PROCEDURE**

The sensor will rotate from left to right, and tilt forward or backward. Adjust the sensor to point in the desired direction.

Set the two adjustment controls on the underside of the unit (diagram C) to the following positions:

TIME - Fully anti-clockwise
DUSK - Fully clockwise

The unit will now operate during daytime as well as at night, illuminating the lamp for approx. 5 seconds each time. This allows testing to be carried out to establish the best position for the sensor.

The lamp will immediately illuminate as the unit goes through its "warm-up" period. After approximately 1 - 2 minutes the lamp will extinguish. Try to remain outside the detection area during the warm-up period.

Walk across the detection area approx 5 metres from the unit. As you cross a detection "zone" the lamp will illuminate. Now stand still until the lamp extinguishes (this should take approx. 5 seconds).

Start moving again. As you cross each "zone" the lamp will illuminate.

Repeat the above, walking at various distances and angles to the unit. This will help you to establish the detection pattern.

If the detection area is too small for your requirements, try angling the sensor head up. This will increase the coverage distance. Angling the head downwards will reduce the range should a smaller coverage area be required.

#### **SETTING UP FOR AUTOMATIC OPERATION.**

When walk tests are complete, the unit can be switched to automatic operation :

The TIME setting controls how long the unit remains illuminated following activation & after all motion ceases. The minimum time (fully anti-clockwise) is approx. 5 seconds, whilst the maximum time (fully clockwise) is approx. 5 minutes. Set the control to the desired setting between these limits.

The DUSK control determines the level of darkness required for the unit to start operating. The setting is best achieved by the procedure below:

**Set the DUSK control knob fully anti-clockwise.** The unit will now start operating at dusk.

If you require the light to activate earlier, wait until the ambient light level reaches the level of darkness at which you wish the lamp to become operative, SLOWLY rotate the control in a clockwise direction until a point is reached where the lamp illuminates. Leave the control set at this point.

At this position, the unit should become operative at approximately the same level of darkness each evening. Observe the operation of the unit. If the unit is starting to operate too early (ie. when it is quite light), adjust the control slightly anti-clockwise. If the unit starts to operate too late (ie. dusk), adjust the control slightly clockwise.

Continue to adjust until the unit operates as desired.

**MASKING THE SENSOR LENS**

To reduce the sensor coverage, preventing detection in unwanted areas, mask the sensor lens using electricians tape or similar (see diagram D). For your information, the top section of the lens covers long range detection, the bottom covers short range. Similarly, the left and right lens sections cover the left and right detection areas respectively.

**MANUAL OVERRIDE MODE**

**At night**, to switch the unit into manual override mode, turn off the power using the internal wall switch/circuit breaker then switch back on within one second. The unit should now enter manual override mode until dawn when it will reset to its normal operation.

To reset back to Auto mode, turn off the power again and wait 20 seconds. Switch back on. The unit will go through its warm-up cycle before resuming normal PIR operation.

**SECTION FIVE**  
**TECHNICAL SPECIFICATIONS**

Detection Range	Up to 12 metres
Detection Angle	140°
Power Supply	240 V AC ~ 50Hz
Maximum Switchable Load	1000W (2 x 500W) Tungsten Halogen 1000W (10 x 100W GLS) Incandescent 500W Fluorescent
Time On Adjustment	5 seconds - 5 minutes
Dusk Level Adjustment	Day & night or night only operation
Environmental Protection	IP44 (suitable for outdoor use)

If you experience problems refer to Troubleshooting Guide.  
If problems still exist, do not immediately return the unit to store.

Telephone the IQ Customer Helpline

**0871 71 71 100 Weekdays 9.00am - 5.00pm**

support@iq-group.com www.iq-europe.co.uk

Qualified Customer Support Co-ordinators will be on-line to assist in resolving your query.

**SECTION SIX**  
**TROUBLESHOOTING GUIDE**

<b>PROBLEM</b>	<b>SOLUTION</b>
o Lamp stays ON all the time at night.	Cover PIR lens with a thick cloth. If the light turns out, check detection area for heat or reflective source. If the light stays on, check wiring. See Section 3.
o PIR keeps activating for no reason / at random.	Reset unit. Leave for a maximum of 5 minutes. If light activates, check area for false activation from heat or reflective source.
o PIR sensor will not operate at all.	Check that the power is switched ON at the circuit breaker/internal wall switch.  Turn OFF the power to the unit and check the wiring connections.  Check the lamp. If the lamp has failed, replace. Ensure that the lamp is seated correctly in the lampholder. Please note that the unit will not detect through glass.
o The PIR sensor will not operate at night.	The level of ambient light in the area may be too bright to allow operation at the current DUSK setting. During the hours of darkness, adjust the DUSK control slowly clockwise until the lamp illuminates. Refer to previous section for more details.
o Unit activates during the daytime	Adjust the setting anti-clockwise to lower the level of ambient light required for activation.
o PIR coverage is poor/sporadic	Unit may be poorly located. See previous section - 'Selecting The Location' and re-locate the unit.
o Detection range varies from day to day	PIR sensors are influenced by climatic conditions. The colder the ambient temperature, the more effective the sensor will be. You may need to make seasonal adjustments to the sensor head position to ensure trouble-free operation all year round.



## DID YOU KNOW...

IQ products are designed and manufactured to give many years of trouble-free service.

The materials used during manufacture have been selected to allow the product to be easily recycled when no longer functional.

Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

### LIGHT POLLUTION & CONSIDERATE LIGHTING

Please be aware of the annoyance over-lighting an area can cause to your immediate neighbours.

Light pollution caused by incorrectly installing a unit or over-lighting an area can be limited by carefully considering the location and position of your unit before installation. The light spread on all halogen floodlights can be reduced by angling the floodlight downwards on the mounting bracket.

This will also concentrate the light on your property and limit the potential inconvenience of the light shining into your neighbours windows etc.

Please see **Selecting a Location** for information on choosing the optimum location for your security light.

