2300W PIR LIGHT CONTROLLER

LAM210

Installation & Operating Instructions

LAM210

PIR LIGHT CONTROLLER - BLACK

WEATHERPROOF

IP55

PIR SWITCHING

2300w

MAXIMUM

MANUAL OVERRIDE

x1

CLICK ONCE

TIME ON

5sec ⇨ 5min

ADJUSTABLE

DETECTION ANGLE

180º

ADJUSTABLE

DETECTION RANGE

12m

ADJUSTABLE

DUSK TO DAWN

ADJUSTABLE

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 if required.

PARTS INCLUDED

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

TOOLS & PARTS NEEDED

- 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 2300W tungsten halogen/incandescent or 500W fluorescent (including low energy).

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. If the unit is mounted any higher than this, the sensor will need to be angled down slightly to maintain coverage and forward coverage will be reduced.

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.).
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.

SECTION THREE
INSTALLATION

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

The unit is suitable for connection to a 230 V ac 50Hz electricity supply. It is suggested that 3-core round flexible cable of 1mm² gauge is used. An isolating 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, or to override the unit electronically (by switching the supply off and on within 1 second).

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.
Fix the mounting plate to the wall. Take care not to overtighten the screws to prevent damage to the mounting plate. If using a power screwdriver, use the lowest torque setting.

***** 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 backplate as follows (see connection diagram E):

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

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

NEUTRAL (Blue)	N
EARTH (Green/Yellow)	⏚
LIVE (Brown)	L1

Ensure that all connections are secure.

Line the uniy up with the backplate and push at the top of the unit until the internal catches click into place. Apply pressure at the bottom of the unit until the external bottom catch snaps home ensuring a weatherproof seal.

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.

SECTION FOUR
COMMISSIONING AND OPERATION

WALK TEST PROCEDURE
The sensor will rotate from left to right, and tilt forward or backward. Adjust the sensor to point in the required direction and angle down to limit forward range as required.
The unit can be set up in daylight or at night.
Set the time adjustment to the minimum (fully anti-clockwise) and the light threshold to maximum (fully clockwise), (see diagram C).
Turn the power to the unit on. The lamp will illuminate for approximately 30 seconds. This indicates the unit is wired correctly.
The unit is in Test Mode when the light turns off.

TEST MODE
The lamp will now illuminate for approximately 5 seconds every time movement is detected. Walk across the detection area approximately 5 metres from the unit (see diagram B). Each time you are detected the lamp will illuminate. Now stand still until the lamp extinguishes (this should take approx. 5 seconds) and then for a further 2 seconds.
Start moving again, when you are detected again, the lamp will illuminate.
Repeat the above, walking at various angles and distances 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 detection area. Angling the head downwards will reduce the detection area should a smaller coverage be required.

SETTING UP FOR AUTOMATIC OPERATION
When walk tests are complete, the unit can be set up for Automatic Mode.

The TIME setting controls how long the unit remains illuminated following activation and after all motion ceases. (See diagram C the time adjustment knob is indicated by the "Clock" symbol).
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. (See diagram C). The DUSK adjustment knob is indicated by the "Moon" and "Sun" symbols).

Set the light threshold to maximum (fully clockwise/Sun end), then turn the control anti-clockwise about three quarters of the way round to the Moon end. This will give operation after DUSK approximately.

For a more accurate setting of the DUSK control turn it fully anti-clockwise (Moon end) and leave for at least 20 seconds for the unit to settle.
When the ambient light level reaches that required for DUSK adjust the DUSK control a small amount clockwise pausing to try to get the unit to detect and turn the lights under control ON by moving a hand slowly backwards and forwards across the front of the detector lens for around 5 seconds.
Continue to turn the control small amounts in a clockwise direction, stopping after each adjustment to try to get the unit to detect as above.
Eventually detection will occur and the DUSK level is now set as required.

MASKING THE SENSOR LENS
To restrict the sensor coverage, preventing detection in unwanted areas, mask the sensor lens using the masking label provided (see diagram D). 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
The light can be switched on for longer time periods by use of the Manual Override Mode. This can be activated night by using the internal wall switch or circuit breaker.
Switch the internal wall switch/circuit breaker once (off/on) within 1 second. The unit will now illuminate continuously until dawn or until switched back into Auto Mode. To switch the unit back into Auto Mode, switch the internal wall switch/circuit breaker once (off/on) within one second. The unit will return to its Auto mode and will operate as set up after the walk test procedure.

SECTION FIVE
ACCESSING TERMINALS AFTER INSTALLATION

This may be necessary to add further lighting for instance and the following procedure for removing the unit from its backplate should be followed:-
Insert a flat blade screwdriver in the catch at the bottom of the unit and lever it outwards as indicated in diagram F, step 1. Once the catch has released grasp and push the unit as shown in diagram F, step 2 until the internal catches at the top of the unit slip out of their respective backplate slots and the connector pins on the unit seperate from their respective sockets on the backplate.
The terminals are now accessible. If adding lighting ensure that the units rating is not exceeded.

SECTION SIX
TECHNICAL SPECIFICATIONS

Detection Range	**Up to 12 metres**
Detection Angle	**180°**
Power Supply	**230 V AC ~ 50Hz**
Maximum Switchable Load	**2300W Tungsten Halogen or Incandescent**
	500W of any Fluorescent lamps including low energy
Time On Adjustment	**5 seconds - 5 minutes**
Dusk Level Adjustment	**Day & night or night only operation**
Environmental Protection	**IP55 (suitable for outdoor use)**
EC Directives	**Conforms to 73/23/EEC, 89/336/EEC**

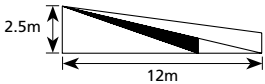
SECTION SEVEN
TROUBLESHOOTING GUIDE

PROBLEM	SOLUTION
❑ Lamp stays ON all the time night and day.	Check wiring connections. Wires to L and L1 terminals may be transposed.
❑ Lamp stays ON all the time at night, or PIR keeps activating at random for no apparent reason.	The unit may be suffering from false activation. Cover the sensor lens completely with black pvc tape. This will prevent the sensor from "seeing" anything. If the unit now switches off after the set time duration and does not re-activate, this indicates that the problem was caused by false activation. The problem may be solved by slightly adjusting the direction/angle of the sensor head (see previous section). If however, the unit continues to remain ON or to operate randomly the unit is faulty and should be replaced. You may not be allowing the unit time to complete it's warm-up period. Stand well out of the detection range and wait (the warm-up period should never exceed 5 minutes). Occasionally, winds may activate the sensor. Sometimes passages between buildings etc. can cause a "wind tunnel" effect. Ensure the unit is not positioned so as to allow detection of cars/ people using public thoroughfares adjacent to your property. Ensure that the unit is mounted securely, even the slightest movement can result in a false detection.
❑ 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 as per the diagram (see previous section 3). Ensure no connections are loose. Check the bulb. If the bulb has failed, replace (do not hold bulb directly with fingers, use a tissue or clean dry cloth). Ensure that the bulb is seated correctly in the bulbholder.
❑ The PIR sensor will not operate at night.	Refer to section 4 for DUSK control adjustment.
❑ Unit activates during the daytime.	Refer to section 4 for DUSK control adjustment.
❑ PIR coverage is poor/ sporadic.	Unit may be poorly located. See previous section - 'Selecting The Location' and re-locate the unit.
❑ 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.

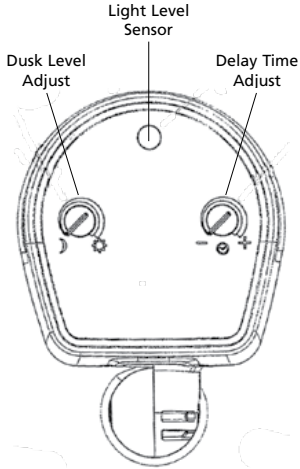
A

TOP VIEW

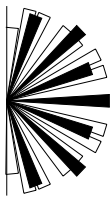
SIDE VIEW



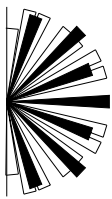
C



B

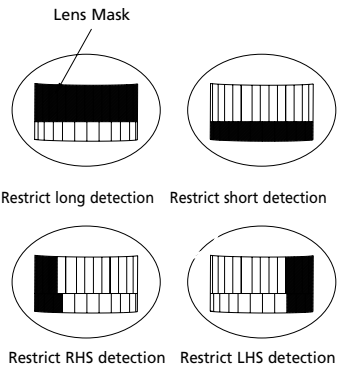


Less sensitive



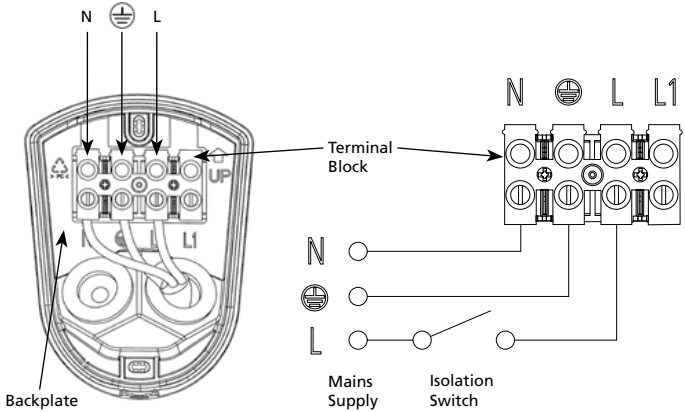
More sensitive

D



CONNECTION DIAGRAM

E



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