

»» SUPERSWITCH ««

# SPECTRA 200

## Instruction Manual and Guarantee

BEFORE STARTING ANY INSTALLATION WORK, PLEASE READ CAREFULLY



Catalogue Numbers 6015 / 6016  
Design Registration  
Applied for No. 2066807

### TOOLS NEEDED TO INSTALL SPECTRA 200 ARE:

- Electric/hand-held drill
- Drill bits to suit wall plug dimensions
- Terminal or Electricians screwdriver
- Large slotted/Philips screwdriver

### IMPORTANT

Read all instructions before proceeding with installation. This product requires connection to a 220-240V AC~50Hz power source. This product is for wall mounting only. Lamp loads connected must not exceed 1000w Tungsten filament loads or 1000w Tungsten halogen loads Suitable for connection to fixed luminaires only, not portable appliances.  
**IF IN ANY DOUBT, CONSULT A QUALIFIED ELECTRICIAN.**

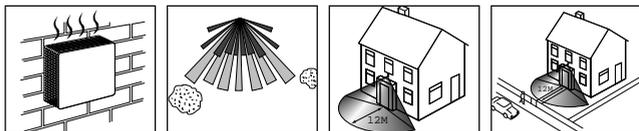
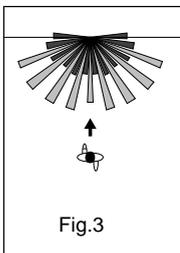
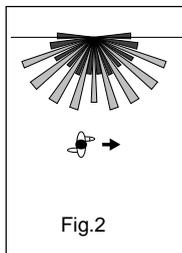
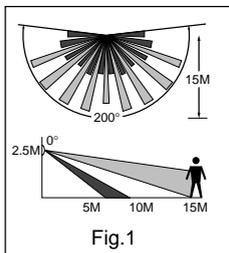


Fig. 4



Fig. 5

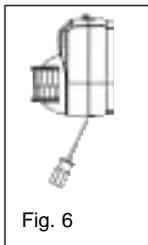


Fig. 6

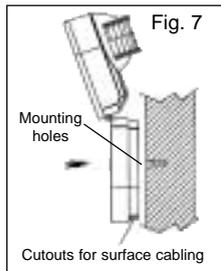


Fig. 7

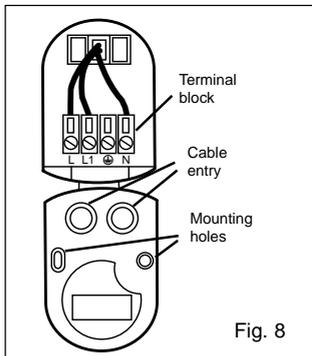


Fig. 8

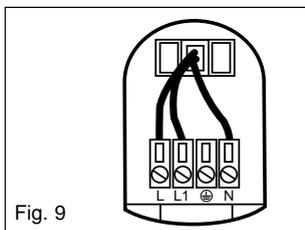


Fig. 9

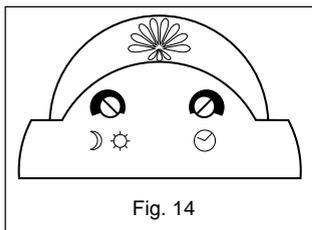


Fig. 14

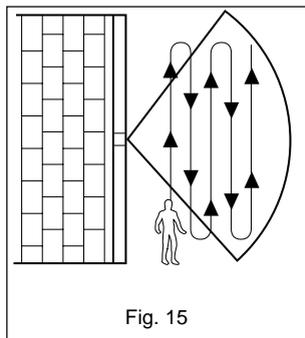


Fig. 15

## 1 SELECTING A LOCATION

Your PIR Detector has a number of detection zones at various horizontal and vertical angles, as shown. A moving human body crossing or entering one of the zones activates the Detector. Mount the Detector at a height of 2.5m for the best all-round coverage [Fig. 1] - it may be positioned up to 4m high for a greater detection range, but the detection pattern will be less effective.

Careful positioning of the tilt and swivel Detector head is needed to ensure optimum performance. When performing the WALK TEST [Section 4], the angle of the head may require slight adjustment, particularly when mounting your PIR Detector higher than the recommended 2.5m.

Also note that the PIR Detector is much more sensitive to movement ACROSS its field of vision [Fig. 2], rather than movement directly toward it [Fig. 3] - so if possible, mount the PIR facing ACROSS the approach to your property.

False Activation Reduction technology makes your PIR Detector less prone to activation by wind, rain, moving branches, etc, but care should be taken to avoid siting near sources of heat - central heating outlets, tumble dryer exhausts and extractor fans, for instance. Under extreme conditions branches and reflective surfaces such as pools of water or white painted walls can also be a problem. Wherever possible, mount the PIR away from such sources of interference [Fig. 4]

If an object such as a moving branch repeatedly activates the Detector in normal operation, masking the lens of the Detector with the blanking strip provided or electrical tape is a simple solution [Fig. 5]. By trial and error, you will discover how much of the lens to mask to blank out the problem - note that the top half of the lens corresponds to long range detection, the bottom half to short range.

## 2 MOUNTING

- Open the PIR Detector by inserting a small slotted screwdriver into the slot at the base of the unit [Fig. 6]. Push screwdriver gently to release catch and to allow front cover to be opened fully - the cover is hinged at the top.
- Place the backplate of the unit in the desired position and mark the locations of the mounting holes [Fig. 7]. Next drill the holes to the required depth and insert the wall plugs.
- Cabling can either be from directly behind the unit through the wall, or along the surface from below - via the gaps provided in the housing. [Fig. 8].
- Pierce the grommets and feed the recommended cable through them, ensuring a watertight seal.
- Screw the unit to the wall - do not over-tighten screws.
- Connect cables according to one of the diagrams in Section 3.
- Re-assemble the unit.

## 3 WIRING & CONNECTION

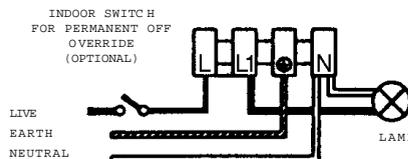
The unit requires connection to a 220-240 AC 50Hz mains electricity supply. This is best achieved by connecting the unit to the domestic lighting circuit. It is suggested that 3-core round flexible cable of at least 1mm<sup>2</sup> gauge is used. It is also allowable for the unit to be connected to the domestic socket ring main, though it is suggested that a 5 amp fused spur is used in this case

### IMPORTANT

**ALWAYS switch OFF the mains power BEFORE attempting to install or maintain the 200 PIR. If in doubt, consult a qualified electrician.**  
**All installations shall comply with National Wiring Regulations..**

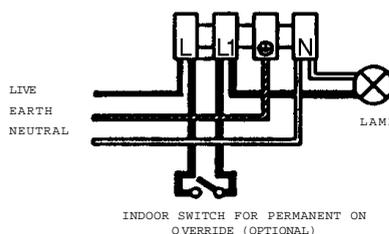
**NOTE :** when connecting to METAL LIGHT FITTINGS ensure an earth conductor is connected to provide earth continuity to the metal fitting

- **Auto / Off Wiring** in this manner provides the following lighting options : Automatic operation (Switch closed) Permanently Off (Switch open)

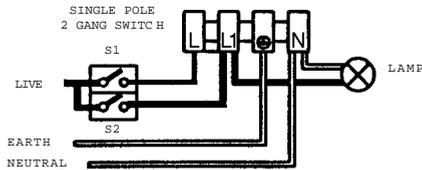


**Additional feature** - when in Auto mode, switching off, then back on, will result in the lamp illuminating for the pre-set time period. This is ideal for lighting the way when leaving premises.

- **Auto / On** Provides the following lighting options : Automatic operation (Switch open) Permanently On (Switch closed)

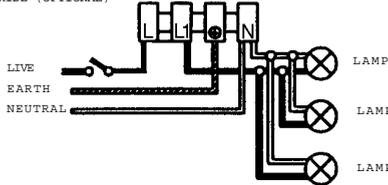


- **Auto / Manual On and Off** Provides the following lighting options : Automatic operation (S1 closed, S2 open) Manual operation - with S1 open, the lamp is manually controlled by the use of S2.



- **Multiple lamps** More than one light-fitting can be wired in parallel to the detector using any of the above switching methods. The combined wattage of connected lighting must not exceed the 'Maximum Switchable Load' as given in the Technical Specifications Section.

INDOOR SWITCH FOR PERMANENT OFF OVERRIDE (OPTIONAL)



## 4 OPERATION & TESTING

### Walk testing

When the installation procedure is complete, the unit is ready for testing. The Walk Test procedure is as follows:

#### Step 1

Using a small slotted screwdriver, set the two adjustment controls on the underside of the PIR to the following positions:

TIME - Fully anti-clockwise  
LUX - Fully clockwise

With these settings, the unit will operate during daytime as well as at night, illuminating the floodlight for approx. 5 seconds each time movement is detected. This allows testing to be carried out following installation in order to establish the best position for the sensor head, ensuring optimum performance.

#### Step 2

Apply the power by switching on the circuit breaker/internal wall switch. The lamp will immediately illuminate as the system goes through its 'warm-up' period. After approximately 1-2 minutes the lamp will extinguish. Please try to remain outside the detection area during the warm-up period.

#### Step 3

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

#### Step 4

Start moving again. As you cross each 'zone' the lamp should illuminate as in Step 3.

#### Step 5

Repeat Steps 3 & 4, walking at various distances and angles to the unit (see Fig. 15). This will help you to establish the detection pattern.

#### Step 6

If the detection area is too small for your requirements, try angling the sensor head up. This should increase the coverage distance. Similarly, angling the head downwards will reduce the range should a smaller coverage area be required. You should find that the head will move quite freely in its ball-and-socket mounting. For more unusual requirements (i.e. very short range), it may be necessary to 'mask' an area of the sensor lens to achieve the desired coverage. Please refer to Section 2 for details.

#### Step 7

Carry out Walk Tests and adjustments until you are happy with the coverage area.

#### NOTE:

Passive Infra Red sensors are less effective at detecting the movement of vehicles, e.g. on driveways. If this is a feature you require, some further adjustment of the sensor head may be required. Test by driving the vehicle in and back out of the detection zone when the engine is at its normal temperature.

### Setting up for automatic operation

When Walk Tests are complete, the unit can be set for automatic operation as follows:

#### Step 1

The TIME setting controls how long the lamp load remains illuminated following activation and after no further movement is detected. The minimum time (TIME control fully anti-clockwise) is approx. 5 seconds, whilst the maximum time (TIME control fully clockwise) is approx 5 minutes. Using a slotted screwdriver, set the control to the desired setting between these limits.

**NB:** It is important to understand that the time setting determines how long the lamp will remain illuminated after all motion ceases. For example, say the time is set at 1 minute, someone then activates the sensor and remains in the detection area for 2 minutes before leaving. The lamp will remain illuminated for the 2 minutes whilst the intruder is present and a further 1 minute after he/she leaves, giving a total ON time of 3 minutes (all timings are approximate).

#### Step 2

The LUX control determines the level of darkness required for the unit to start operating each evening. The setting is best achieved by the following procedure:- Set the LUX control knob fully anti-clockwise. Wait until evening.- When the ambient light level reaches the level of darkness at which you wish the lamp to become operative (i.e. at dusk), slowly rotate the control in a clock-

wise 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 over a period of a few days. If you find that the unit is starting to operate too early (i.e. when it is quite light), adjust the control slightly anti-clockwise. If the unit starts to operate too late (i.e. only when it is very dark), adjust the control slightly clockwise. Continue to adjust until the unit operates as desired.

## 5 TROUBLE SHOOTING GUIDE

**REMEMBER** Always ensure the mains supply to the unit is isolated before removing covers which allow access to live parts.

PROBLEM	SOLUTION
<i>Light stays ON all the time at night, or PIR activates for no reason at random.</i>	Cover the Detector lens completely with thick cloth or a piece of cardboard to prevent it 'seeing'. If the unit now switches off after the set time duration, there has been interference from some source within range. Adjust the tilt and swivel head or mask off the required area of lens [see Section 1] to avoid the interference. Sometimes strong winds, passers-by, road traffic, small animals or pets can trigger the PIR. Mask or reposition the unit if necessary
<i>Light stays ON all the time day and night</i>	Thoroughly check that your wiring is correct according to the wiring diagram. Be sure you allow the unit to complete its warm-up period - stay well out of the detection area and wait [warm-up should never take longer than 5 minutes].
<i>PIR Detector will not operate at all</i>	Check power is ON. If so, turn power OFF and check wiring is correct, and that no connections are loose. Check that lamp/s in the system have not failed, and that they are properly seated in their holders.
<i>The PIR Detector will not operate at night</i>	Ambient light level may be too high in operational area. Adjust the LUX control slowly clockwise until lamp illuminates [See Section 4 for details].
<i>Unit activates in daytime</i>	Ambient light level may be too low in operational area. During daylight, turn the LUX control slightly anti-clockwise. When lamp extinguishes, enter detection area, if PIR still activates, adjust LUX further in anti-clockwise direction and enter the detection zone again. Repeat procedure until PIR does not activate [See Section 4 for details].
<i>PIR coverage is poor/sporadic</i>	Check suitability of location - see Section 1 for advice, and reposition PIR if necessary.
<i>Detection range changes from day to day</i>	The PIR Detector operates by sensing body heat. On cold evenings, the Detector more easily 'sees' body heat; in warm weather, the opposite is true. For this reason, in some cases it may be necessary to make small seasonal adjustments to the Detector's head position, for trouble-free year round operation.

## TECHNICAL SPECIFICATIONS

Detection Range	Up to 15 metres
Angle of Detection	200°
Power supply	220-240V AC~50Hz
Maximum Switchable Load	1000 Watts Tungsten filament 1000 Watts Tungsten halogen
Time On Adjustment	5 seconds - 5 minutes
Lux Level Adjustment	Day & night or night only operation
Environmental Protection	IP54. Ideal for mounting in exposed locations.
The PIR sensor emits no radiation & is not harmful to people, animals or plants	

## GUARANTEE

Friedland Limited guarantee that should any defects in workmanship or materials occur in this product within 3 years from the date of purchase, it will be replaced provided it has not been dismantled, altered, or a repair attempted. To comply with the 3 year guarantee, the installation and usage of the product must be in accordance with the Technical Specification above and in particular, care should be taken to ensure the maximum switching loads are not exceeded. The product should be returned to place of purchase along with this manual, the purchase receipt and details of circumstances of the malfunction given. This undertaking is in addition to the consumer's statutory rights and does not affect these rights in any way.

Superswitch, Houldsworth Street, Stockport, Cheshire SK5 6BP

This product complies with the European Low Voltage Directive 73/23/EEC (EN 60 730-2-1) and EMC Directive 89/336/EEC