

**Friedland**

# ***SPECTRA* PLUS**



**L430N BLK and L430N WHI**

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Instruction Manual

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## Wirefree PIR Movement Detector



### L430N BLK and L430N WHI Instruction Manual and Guarantee

#### Introduction

Your Spectra Plus Wirefree Passive Infrared (PIR) Movement Detector can operate with the Spectra Plus Wirefree Switching receiver to expand an existing Spectra Plus lighting control system (868Mhz Version). Alternatively it will operate with a Libra Plus Chime to provide an audible warning when movement is detected. A built in Dusk/Dawn sensor can be adjusted to prevent movement from activating light during daylight or alternatively if working with a Chime it will prevent movement activating the Chime during the night. The PIR Detector is suitable for mounting outdoors.

**No Wires!** - There is no physical wiring connection between the PIR and Receiver or Chime. Instead the system uses radio technology to provide the link which makes installation even quicker and allows the PIR to be located remotely at the most appropriate position for the area being monitored. To prevent interference from other devices the PIR detector is coded with a unique identification code that can be easily learnt by the receiver or Chime.

The PIR is compatible with the Friedland Libra Plus Chime system, (Chimes and Pushes) and Spectra Plus switching receiver.

## Device range

The quoted range of the system is measured in ideal conditions. Any barrier (e.g. walls/ceilings aluminium reinforced UPVC windows and metallic parts of house structures etc) between the PIR and receiver will reduce the effective radio range by an amount dependant upon the construction of and number of barriers between the PIR and receiver.

In extreme cases where metal barriers are involved then it is possible for the signal to be blocked out completely.

Whilst the majority of installations are not adversely affected, you may have to experiment a little to discover the best location for your PIR and Receiver Unit.

## KIT CONTENTS

PIR Detector

Instruction Manual

Fixing pack containing:

- 2 slot-in PIR window masking curtains
- 2 fixing screws and plastic wall plugs

### ***You will also need***

- One 9V PP3 (6LR61) Alkaline Battery

## TOOLS REQUIRED

- No.2 Philips Screwdriver
- 3mm flat bladed screwdriver
- Drill
- 6mm Masonry drill bit

## SAFETY

Always follow the manufacturers advice when using power tools; steps, ladders etc. and wear suitable protective equipment (e.g. safety goggles) when drilling holes etc. Before drilling holes in walls, check for hidden electricity cables and water pipes, the use of a cable/pipe locator maybe advisable if in doubt.

Do not attempt to install or program this product while it is wet or raining.

## Installing the PIR Detector

### Positioning the PIR

- Place the detector within range of the Receiver, taking into consideration any reduction in the 200m maximum range caused by any objects in between. Avoid mounting the unit on or near large metal objects.

- The recommended mounting height for the detector is 2.5m. At this height, the detector will have a range of approximately 12m. Mounting the detector higher will increase the detection range but it will be less sensitive to movement at the extreme range and also may not be able to detect movement very close to it. Tilting the detector head up and down will have the same effect.

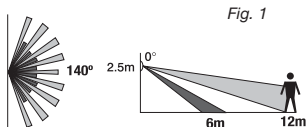


Fig. 1

- Mount the detector on a firm stable surface where the logical path of a person would cut across the detection pattern. The detector is more sensitive to movement across its detection pattern than to movement directly towards it.

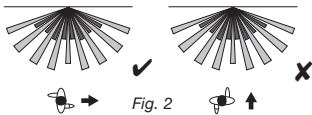


Fig. 2

Avoid positioning the detector where there are any heat sources in the detection area (e.g. heating or tumble drier exhaust vents etc.). Also avoid highly reflective surfaces or hanging branches in the detection area as these can cause false activation in some weather conditions.

## Installing the PIR

**NOTE:** Before fixing the PIR unit to the mounting surface, it is advisable to check that the system works correctly (i.e. that the PIR and receiver are within radio range of each other) by temporarily operating the PIR Detector in the chosen location.

- Open the PIR Detector by inserting a flat bladed screwdriver into the slot at the base of the unit and pushing gently to release the catch and to allow the front cover to be opened.

### PIR DETECTOR

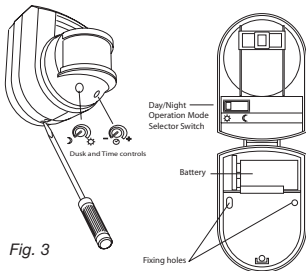


Fig. 3

- Set the Day/Night operation switch according to whether you wish the PIR to detect movement during the day or night. Day operation is intended for use with a Libra Plus Chime where movement will trigger the Chime during the day but not at night. Night operation is intended for use with a Switching Receiver for controlling lighting where movement will activate the lights only at night and not during the day

**Note:** The PIR can be configured to work with either a Chime or a Switching Receiver in Day or Night mode. It cannot work with both.

- Mark the position of the fixing holes and drill two 6mm holes, then insert the wall plugs (supplied). If fixing to non-solid or wood surface the wall plugs will not be needed and only a small pilot hole will be required.
- Clip a 9V PP3 (6LR61) Alkaline battery to the connector and fit the battery in its holder.

**Note:** When the battery is connected the LED behind the detector lens will continuously flash or stay ON while the detector goes through its warm up cycle.

The unit will not operate normally until the LED stops flashing.

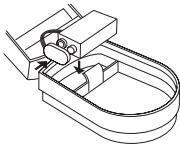


Fig. 4

- Fix the unit in place on the wall and then close the cover ensuring it clicks fully closed.
- Adjust the sensor head to point in approximately the desired direction.

## PIR Walk Test

**Important:** Before commencing walk test ensure the RED indicator behind the PIR lens is not flashing continuously. If it is wait until the PIR has completed its warm up cycle and the flashing stops.

Configure the detector for walk testing according to the selected Day or Night operating mode as follows:

- 1) Set the TIME control fully anti-clockwise to its minimum setting.
- 2) If the PIR is set to NIGHT operation for use with lighting adjust the DUSK control fully clockwise to its maximum setting.

If however the PIR is set to DAY operation for use with a chime adjust the DUSK control fully anti-clockwise to its minimum setting.

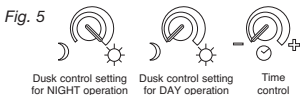


Fig. 5

Slowly walk across the detection area approximately 5m from the unit. As you cross a detection zone and your movement is detected a small red indicator behind the lens will illuminate for a few seconds. Stand still until the indicator goes out after a few seconds. Continue moving around at various distances and angles to the unit, stopping each time the indicator illuminates, until you have established the detection area.

If the PIR has already been linked to the Switching Receiver or Chime when the Walk test is performed then the lights will illuminate for approximately 5 seconds or the Chime will sound each time movement is detected.

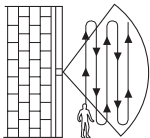


Fig. 6

Adjust the position of the detector head to obtain approximately the desired detection area as required. Angling the PIR head downwards will reduce the range and produce a smaller coverage area. Angling the head upwards will increase the range and produce a larger coverage area. If necessary the detection area can also be reduced by masking the detection window (see below).

### **Linking the PIR to a Libra Plus Chime or Spectra Plus Switching Receiver**

The PIR has a unique identification code that prevents inadvertent and unwanted interference from other products operating in the area. In order for movement detected by the PIR to trigger the lights or Chime this code needs to be learnt by the either the Switching Receiver or Chime Unit.


#### **Learn mode PIR**

To enable your chime to learn the identity of your PIR:

- Press the ● button and keep it pressed. Each Icon will light in turn. When the Icon you want is lit, release the button.
- While the Icon you have selected is lit, operate your PIR. The chime will sound. The Icon will flash.

#### **Unlearn procedure**

If you want to remove a PIR from the chime's memory:

- Press the ● button and keep it pressed. Each Icon will light in turn. When the Icon associated with the PIR to be un-learned is lit, release the button.
- Press and hold down both ● & buttons,  until a 'beep' sound is heard.

Please refer to your instruction manual supplied with the Switching Receiver or Chime for the procedure to do this. At the appropriate point you will have to trigger the PIR by walking in front of it so that it detects your movement.

#### **Masking the PIR window**

To prevent movement detection in unwanted areas or to shield off shrubs etc which can cause false activation in the wind, the detection area may be reduced by masking off sections of the lens using either the window mask curtain provided or electrical insulation tape. To discover how much screening is needed, first obscure the PIR unit's lens with insulation tape, progressively covering more of the lens until the required detection area is achieved. The top half of the PIR Detector lens deals with long-range detection, the bottom half is for short range. Then simply cut a piece of the plastic window masking curtain to cover the same area as the tape. Remove the tape from the lens (ensuring that any adhesive residue is removed) and clip the cut masking curtain into the window recess.

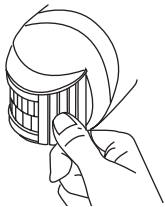


Fig. 7

Alternatively, the PIR Detector can be easily re-positioned in a more suitable location.

## Operating Instructions

### Setting the PIR for Automatic NIGHT Operation with a Spectra Plus Switching Receiver:

Having completed the 'walk test' procedure, you can set the unit for automatic operation as follows:

- 1) The TIME control determines how long the unit remains illuminated following activation and after all motion ceases and is adjustable between approximately 5 seconds (- setting) and 20 minutes (+ setting). Rotate the control to set the TIME to approximately the desired setting.

The DUSK control determines how dark it needs to be before detected movement will trigger the controlled lights and can be set as follows:

- 2) Turn the DUSK control knob to the setting and wait until darkness falls ☺.
- 3) When the ambient light level reaches the level at which you wish the lights to turn on (i.e. at dusk), SLOWLY turn the control in a clockwise direction towards ☀ the mark until movement causes the light(s) to illuminate. Leave the control set at this point.
- 4) The PIR will become operative at approximately the same level of darkness each evening. Observe the operation of the unit over several nights to ensure it is set as required and adjust as necessary. If the unit activates too early (i.e. when it is too light), turn the control slightly towards the ☺ mark. If the unit activates too late (i.e. when it is too dark), turn the control slightly towards the ☀ mark.

### Setting the PIR for Automatic DAY Operation with a Libra Plus Chime:

Having completed the 'walk test' procedure, you can set the unit for automatic operation as follows:

- 1) Set the TIME control fully anti-clockwise to its minimum setting.

The DUSK control determines how light it needs to be before detected movement will trigger the Chime and can be set as follows:

- 2) Turn the DUSK control knob to the ☺ setting and wait until darkness falls.
- 3) When the ambient light level reaches the level at which you wish the chime to stop sounding due to detected movement SLOWLY turn the control in a clockwise direction towards the ☀ mark until movement no longer causes the chime to sound. Leave the control set at this point.
- 4) The PIR will become operative at approximately the same level of light each day. Observe the operation of the unit over several days to ensure it is set as required and adjust as necessary. If the unit stops activating too early (i.e. when it is too light), turn the control slightly towards the ☺ mark. If the unit stops activating too late (i.e. when it is too dark), turn the control slightly towards the ☀ mark.

## PIR low battery indication:

The PP3 battery should operate the PIR Detector for approximately 12 months depending on the number of activations each day and the effect of low temperatures. When the battery is nearing the end of its life (about 30 days before failure), the low battery status will be indicated by the red LED behind the detector lens flashing 5 times after movement is detected.

You should change the battery in the PIR as soon as you notice the low battery signal or if the PIR stops working altogether.

## Testing:

The system may be tested by placing the PIR into Walk Test, (see "PIR Walk Test").

## Troubleshooting

If your wirefree system fails to work properly, complete the relevant test or tests which follow.

**Note:** Also refer to the trouble shooting guide in your Chime or Switching Receiver manual.

### PIR does not detect movement...

- Check that the battery in the PIR is not exhausted.
- Detection is set incorrectly.

### PIR does not activate Chime at all...

- Check that the battery in the PIR is not exhausted.
- Make sure you use new batteries.
- Check that the sound on the Chime is switched ON.
- Check that the Receiver has correctly learned the PIR identification code by following the test procedure. If necessary reset the Receiver and relearn the code.

### PIR activates Chime during the night and not during the day...

- Check that the PIR operating switch is set to the DAY position.

### PIR activates Chime at night as well as during the day...

- The ambient level of light at the Detector may be too high for the current dusk setting permanently simulating day-time. At dusk, adjust the dusk control slightly clockwise. Move around the detection area to see if the movement still activates the Chime. If necessary continue to adjust the dusk setting until movement does not activate the Chime. In extreme case it may be necessary to reposition the PIR.
- The PIR may be illuminated by a light at night preventing the ambient light level falling low enough for the current dusk setting. Try adjusting the dusk setting or shielding the PIR from the light. In extreme case it may be necessary to reposition the PIR.



**PIR does not activate Switching Receiver and lights at all...**

- Check that the battery in the PIR is not exhausted.
- Check that the power to the Receiver is switched ON.
- Check the bulb and replace if defective. Ensure that the light bulb is correctly fitted.
- Turn OFF the power to the unit and check the wiring connections as per the wiring diagram. Ensure all connections are correct and terminals are tight. Check the connections at the switch, PIR and Light.
- Check that the fuse or Miniature Circuit Breaker (MCB) supplying the lighting circuit has not blown or tripped. Before replacing the fuse or resetting the MCB be sure to check for the cause.
- Check that the Receiver has correctly learned the PIR identification code by following the test procedure. If necessary reset the Receiver and relearn the code.

**PIR activates Switching Receiver during the day and not during the night...**

- Check that the PIR operating switch is set to the NIGHT position.

**PIR activates Switching Receiver during the day as well as at night...**

- The ambient level of light at the Detector may be too low for the current dusk setting permanently simulating night-time. In normal daylight, adjust the dusk control slightly anticlockwise. Wait outside the detection area until the light goes out, then re-enter it to see if the movement activates the light. If necessary continue to adjust the dusk setting until movement does not activate the light. In extreme cases it may be necessary to reposition the PIR.

**PIR activates for no apparent reason at random without any movement in its detection area...**

- Wind, small animals or pets, passing traffic or pedestrians may be activating the detector. Try adjusting the detector head or masking sections of the lens to reduce the detection area. You may even have to move the PIR to a different position

**Detection range varies from day to day...**

- The PIR Detector operates by sensing temperature changes caused by a person moving through its detection zones. These temperature changes are measured relative to the background temperature so on a colder day the PIR may appear more sensitive than on a warmer day.

**If you require advice on this product please contact the technical service helpline on: 01268 563066**

*(Lines open 9.00am to 5.00pm, Monday to Friday)*

## Maintenance

The product may be cleaned with a soft damp cloth and then wiped dry. Do not use abrasive, solvent based or aerosol cleaners as this may damage and/or discolour the product. Take care not to accidentally move the detector head. Do not allow water to enter or attempt to clean inside the units.

### Changing the PIR battery:

Change the PIR battery immediately the low battery indication is noticed, (i.e. the red LED behind the detector lens flashes 5 times after each movement detection). Only fit a new Alkaline PP3 (6LR61) battery.

## Disposal & Recycling

At the end of their useful life the packaging and product should be disposed of via a suitable Recycling Centre. Do not dispose of with your normal household waste.  
**DO NOT BURN.**



## Declaration

Novar ED&S hereby declares that this Wirefree PIR Detector is in compliance with the essential requirements and other relevant provisions of the Radio and Telecommunications Terminal Equipment (R&TTE) directive, 1999/5/EC.

## Specification

### PIR DETECTOR

Battery:	9V PP3 (6LR61) Alkaline battery
Battery life:	Approx 12 months (based on 20 activations per day and constant 15°C)
PIR detection range:	12m
PIR detection angle:	140°
Time on adjustment:	5 secs - 20 mins
Photocell adjustment:	5 lux to daylight
Protection:	IP54
Operating Frequency:	868MHz
RF range:	up to 200m (in open field conditions)
Operating temperature:	-20°C to +35°C

## Guarantee

Novar ED&S undertakes to replace or repair at its discretion goods (excluding non rechargeable batteries) should they become defective within 2 years solely as a result of faulty materials and workmanship. Understandably if the product has not been installed, operated or maintained in accordance with the instructions, has not been used appropriately or if any attempt has been made to rectify, dismantle or alter the product in any way the guarantee will be invalidated.

The guarantee states Novar ED&S Ltd's entire liability. It does not extend to cover consequential loss or damage or installation costs arising from the defective product. This guarantee does not in any way affect the statutory or other rights of the consumer.

If an item develops a fault, the product must be returned to the point of sale with proof of purchase, a full description of the fault and all relevant batteries (disconnected).

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