

## INTRODUCTION

The infresco-P 6kW is part of a family of controllers designed to provide energy saving when used with Quartz Infrared Halogen Lamps or other Heating Lighting Products. The 'P' model has a built in PIR sensor allowing the lamps to automatically switch on only when people are present. In addition to the PIR, a temperature sensor monitors the outside temperature and inhibits the lamps when the temperature exceeds a pre-determined set point of between 5 and 25 degrees Celsius. Designed with ease of wiring in mind, this unit is ideal for controlling up to four 1.5kW lamps through the use of two additional cable entry points.

The microcontroller-based unit incorporates zero-voltage switching and a soft-start function to eliminate the lamps' initial high inrush current – potentially increasing lamp life by as much as 30% and reducing the stress on the mains supply. The lamps are switched on for a pre-determined time period of between 5 and 30 minutes. This period is reset each time the PIR detects any further movement. Installation is simple and once installed is relatively maintenance free.

Typical applications are Pub Patio areas, Smoking Shelters, Restaurants, Warehouses, Work shops. Garden Lighting

## PRODUCT FEATURES & BENEFITS

- Significant energy saving - provides heat only when people are present
- Extends lamp Life
- Temperature monitor – lamps inhibited when ambient temperature exceeds set point
- Ideal for controlling up to 4 x 1.5kW lamps
- Soft-start/zero-voltage switch-off
- Low-cost
- Easy to install

## INSTALLATION

**Important:** Read carefully the following information before installing the unit.

The passive infrared sensor (PIR) fitted in this unit detects changes of infrared energy through the Fresnel lens on the front face of the unit. The detection area and range depend significantly on its mounting position. The PIR not only detects movement of the human body, but also other heat sources similar to the human body.

To prevent false activation, the unit must not be located directly facing or in close proximity to the heater lamps. Avoid locating the unit near to heating flues/exhausts, air conditioning units, moving trees/bushes and reflective surfaces.

To prevent malfunction of the PIR sensor, avoid subjecting it to rapidly-changing temperatures, strong shock or vibration or high humidity and temperature.

## WIRING

**Warning! Ensure the mains supply has been isolated before wiring this unit. Failure to do so could result in serious injury or fatality.**

The unit is fitted with three cable glands. Only one cable should be fitted per gland to maintain the unit's IP rating. Two additional cable glands can be fitted to allow the connection of up to four lamps. See Figure 2.

The mains supply connects to the terminal block marked 'LINE'. Connect the supply LIVE to the 'L' terminal, NEUTRAL to the 'N' terminal and EARTH to the 'E' terminal.

The lamps connect to the terminal block marked 'LOAD'. Connect the load LIVE to the 'L' terminal, NEUTRAL to the 'N' terminal and EARTH to the 'E' terminal. The load connections are paired to allow the connection of several lamps.

**Important: Ensure all earth wires are connected to maintain earth continuity to the lamp fittings.**

If the 'Enable' input is not being used, make sure a link is fitted between the 'COM' and 'INPUT' terminals (CN3).

Connect the 3-way plug to the socket marked 'PIR SENSOR' (CN4).

Check all wiring - particularly the Line, Earth and Load connections and make sure the cable glands are tightened.

## WARNING: THIS UNIT MUST BE EARTHED

It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.E. wiring regulations (BS7671) by suitably qualified/trained personnel.

These regulations contain important requirements regarding safety of electrical equipment (for International Standards refer to I.E.C/ directive IEC950).

#### TECHNICAL SPECIFICATIONS

Mains Voltage	230Vac +/- 10% 50 Hz
Operation Current	Max 25A
Switching Capacity	6000W Max
Power Consumption	50mA
Terminals	Rising Clamp
Detection Angle	100°
Detection Range	7 metres maximum
PIR Set Time Period	1 to 30 Minutes
Factory Set Temperature trip point	20°C
Max load at 20°C ambient	6.0 kW
Operating Temperature	-20 to 40°C
IP Rating	65
Gland Diameter (Fitted)	Max Cable Entry 2.5mm <sup>2</sup>
4 Lamp Installation	Must be fitted in Parallel



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## Users & Installation Manual For

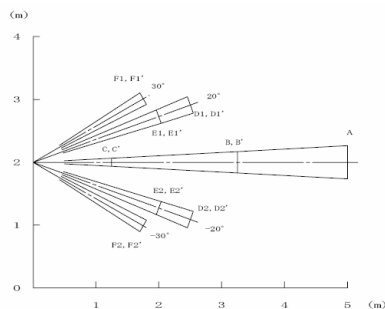
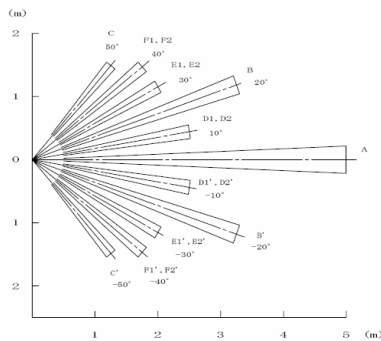
## Infresco PIR 6.0kW

RoHS Compliant  
Directive  
2002/95/EC

X10710 Issue 1 03/09/07



## PIR DETECTION ZONE



## POSITIONING

The Infresco-P 6kW can be wall or ceiling-mounted. For wall-mounting, the unit should be positioned 2-3 metres high with the cable glands facing down. Refer to the PIR detection patterns shown in Figure 1 when deciding where to position the unit.

The unit should be fixed securely using the four mounting holes accessible from the front of the unit or by the alternative rear mounting holes underneath the PCB. For the latter option, remove the four screws securing the PCB and carefully remove the PCB to allow access to the rear mounting holes. Cover any holes used with caps supplied with this unit.

## Troubleshooting

**Warning!** Isolate the mains supply before commencing any work on the unit. Failure to do so could result in serious injury or fatality.

**Problem:** Lamps do not switch on.

### Solution:

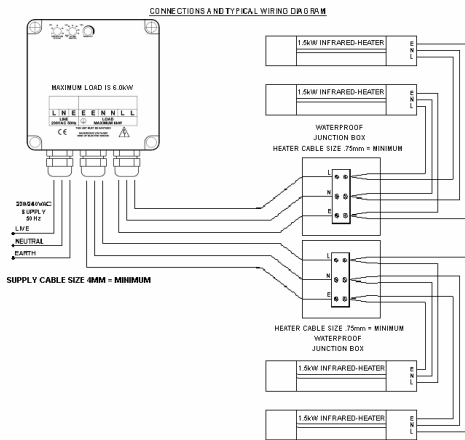
- 1) Check the LINE and LOAD wiring connections to the unit. Ensure the mains supply is switched on. Go to 2) if the lamps fail to switch on.
- 2) The ambient temperature may be higher than the set point temperature you have set. Either increase the temperature set point (VR1 - maximum 25°C) or put the unit into 'walk test' mode to test the lamps. Go to 3) if the lamps fail to switch on.
- 3) Check the lamps/lamp fittings. If possible, connect a known working lamp. Go to 4) if the lamps fail to switch on.
- 4) Increase the PIR sensitivity preset. Go to 5) if the lamps fail to switch on.
- 5) Check, and replace if necessary, the PCB-mounted fuse (F1). If the lamps still fail to switch on, contact your supplier.

**Problem:** Lamps do not switch off.

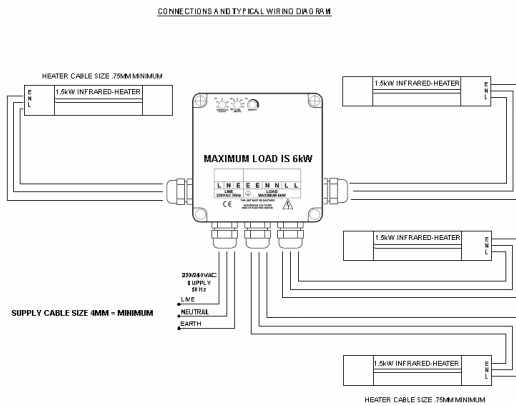
### Solution:

- 1) Check the on-time setting is set correctly and no movement occurs within the detection area. This will allow the on-time to expire. Go to 2) if the lamps fail to switch off.
- 2) Reduce the PIR sensitivity preset (VR3). Go to 3) if the lamps fail to switch off.
- 3) The PIR may be continually being re-triggered due to false activations. Cover the PIR lens or carefully disconnect the 3-way PIR cable inside the unit to disable the PIR. If the lamps switch off after the on-time has expired, the PIR is receiving false activations. See section 'Installation' for more information. If the lamps still fail to switch off, contact your supplier.

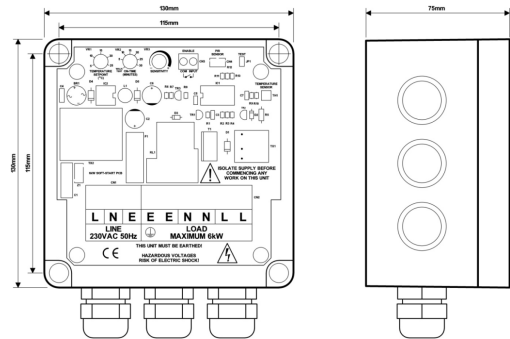
## WIRING OPTION 1



## WIRING OPTION 2



## DIMENSIONS



## Commissioning

Turn the lamp on-time preset (VR2) fully anti-clockwise to select 'walk test' mode. Check the PIR sensitivity preset (VR3) is set to approximately the half-way position (factory default). The temperature set point preset (VR1) is ignored in 'walk test' mode. Switch on the mains supply to the unit. The controller waits 60 seconds to allow the PIR sensor to stabilise. The detection area can then be walk tested to verify the PIR's coverage. Each time the PIR detects sufficient movement, the lamps will switch on for 5 seconds.

**Note:** Each time the lamps switch off, the PIR is inhibited for 5 seconds to prevent changes in infrared energy given off by the lamps from causing a false activation.

Once the detection area and range have been verified, adjust the on-time preset to between 5 and 30 minutes. This will automatically disable 'walk test' mode.

The temperature set point preset should now be set as required.

**Note:** If the ambient temperature exceeds the set point temperature, the lamps are inhibited.

The PIR sensitivity preset can also be adjusted if necessary. Turning the preset clockwise increases the sensitivity.

**Note:** Increasing the PIR sensitivity may also increase the likelihood of PIR false activations.