X20033 – Infresco 4kW Variable Controller
User Manual
Issue 5

Contents

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1 Key Features

- Soft Start – up to 30% extended life of Lamp
- Variable Control – Ability to find comfort level
- Simple Installation – Ability to plug directly in 13A Plug with up to 3kW load
- Energy Saving – Automated system. (Only heat when required)
- Temperature Monitoring – If ambient temperature is above pre-set the Infresco unit remains switched off

2 Optional Extras

3 Technical Specification

Infresco Main Unit	
Mains Voltage	230V AC ± 10% @ 50Hz
Max. Load @ 20°C ambient	4kW
Power Consumption	50mA
PIR Set Time Period	5 Minutes
Temperature Set Point	5°C to 25°C
Factory Set Temperature Trip Point	20°C
IP Rating	IP65
Gland Diameter	Max. Cable Entry 2.5mm^2
2 Lamp Installation	Must be fitted in parallel
Operating Temperature	-20°C to +30°C
Max Unit Operating Temperature	65°C
Dimensions (W x D x H) (mm) ('D' Inclusive of glands)	280 x 200 x 80
PIR Movement Sensor (optional)	
Operating Voltage	12V DC
Field of Range	90° Adjustable
Detection Range	18m
Outdoor Temperature Sensor (optional)	
Dimensions (W x D x H) (mm)	115 x 110 x 55

4 Introduction

The INFRESCO controller has been designed to offer a complete control solution to your outdoor heating area with people comfort and energy saving being the focal points. It has been designed specifically to work with infrared heaters (e.g., garden heating and lighting), or any application where high in-rush current is an issue (e.g., using its soft start feature) with a maximum rating of up to 6kW.

The controller has ten variable incremental settings, allowing you to find the optimum comfort level in your specific area. With the optional energy saving features, once the controller is switched on and set, it will automatically manage the heating system. The optional temperature sensor monitors the ambient temperature only allowing the heaters to switch on once the temperature has dropped below the set point. An optional Passive InfraRed sensor (PIR) will detect the movement required for the heater to switch on but only when needed saving energy. With the addition of a 'soft-start' function which gradually switches the heater load on, which can add up to an additional 30% life to your heater lamp and making installation easier. An optional remote-control handset (for VR models) allows remote variable power adjustment and switch off.

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5 Installation

5.1 INFRESCO UNIT (guidelines)

The unit is designed to be wall mounted with the cable glands facing downwards. Fixing centres are provided to pre-drill mounting holes to suit. No additional holes should be drilled into the enclosure. It may be necessary to use 'stand-off' pillars to aid cooling – see SAFETY FIRST section. The PCB must not be removed from the heatsink/enclosure.

NOTE: Not complying with any of these rules may invalid warranty

5.2 Push Button Operation (also see INSTALLATION CIRCUIT section – Front Panel)

To adjust the power output levels from power up:

- Sustained pressure on the 'UP' arrow will result in the power output stepping through the power levels from '0 to 9' then 'F' (fully on)
- Sustained pressure on the 'DOWN' arrow will result in the power output stepping through the power levels from 'F' to '0' (zero)
- A momentary press of the 'UP' arrow will result in the output going immediately to 'F' (fully on)
- A momentary press of the 'DOWN' arrow will result in the output going immediately to '0' (zero)

5.3 Display Features

- Display shows 't': The controller is turned off as the ambient temperature is above the trip level set by TEMP. SET.
- Display shows 'F': The controller is set to full output.
- Display 'decimal point' pulses: The PIR input is waiting to be enabled i.e., no movement.
    - If you are seeing this and **DO NOT HAVE A PIR**, please ensure that the wire link is fitted between 'sig in' and 'com' at the PIR terminal
- Display decimal point fully on: The unit is in standby mode. Pressing the remote-control power button will toggle the power on and off.

You can check to see if the remote control is transmitting by observing the decimal point flashing rapidly.

5.4 PIR Sensor Use (Guidelines)

Commissioning (Only applicable if you are using a Temperature sensor or PIR when installing controller)

NOTE 1: The PIR takes 60 seconds to activate before detection can occur.

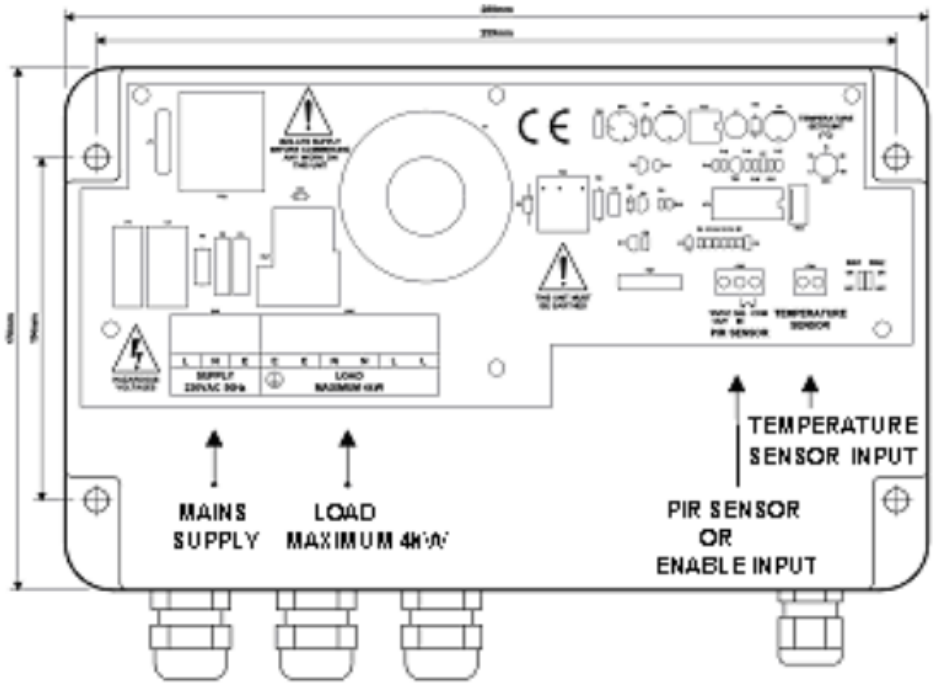
NOTE 2: The PIR continues to monitor the area and will reset to the set time every time it detects movement.

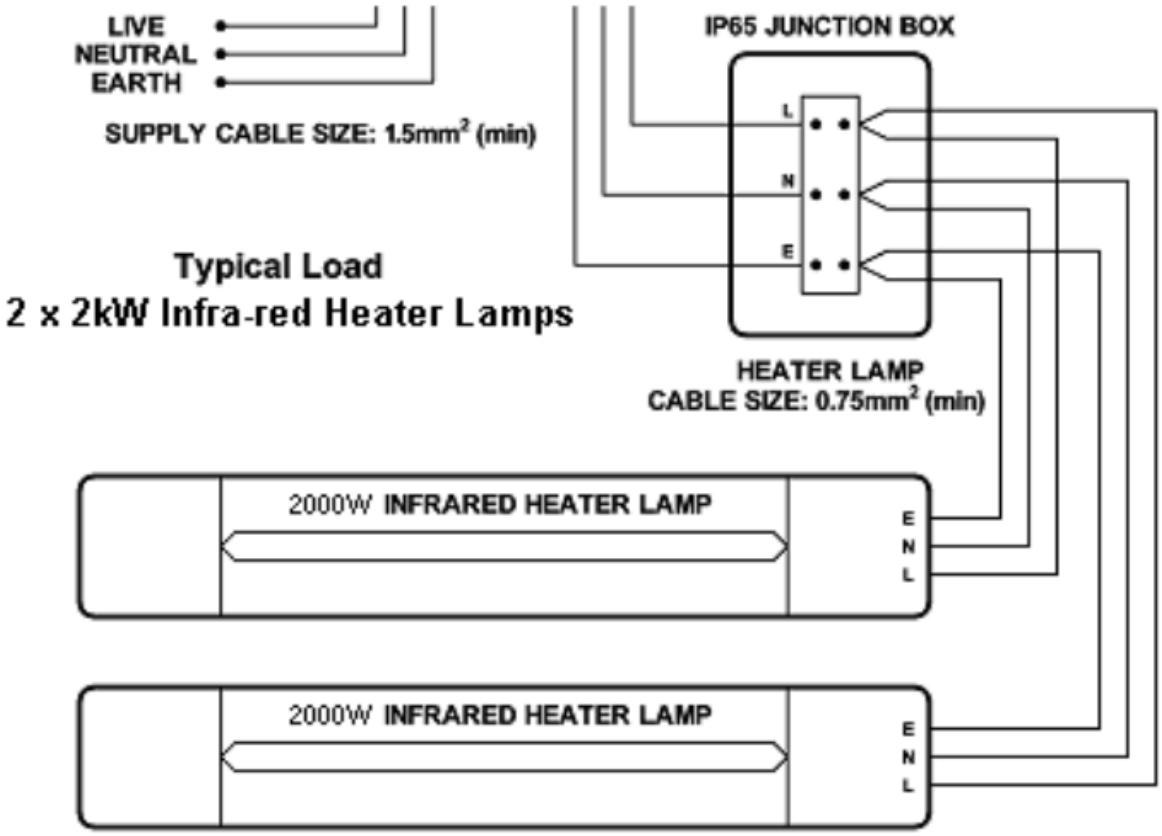
Before testing ensure the wiring is correct, the temperature trip point SET TEMP cermet is set to 20°C (default factory setting). The PIR time-on is fixed to 5 minutes (nonadjustable).

The expected detection area can now be tested by walking, crossing in various directions to ensure coverage is as expected.

A. On initial switch 'ON' if the enable link (SIG IN / COM) is missing the unit will operate normally for a period of 30 seconds before the output switches 'OFF'.
B. If the unit is operating and the enable link (SIG IN /COM) is removed the unit will continue to operate for 5 minutes before the output switches 'OFF'. If the link is not replaced, then on re-applying the power then the controller will operate as in 'A' above.

6 Installation Circuit





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7 Recommendation & Safety Requirements

WARNING

It is important that the Infresco controller is not mounted directly to any flammable material i.e., wood.

It is recommended that the heatsink be spaced off the mounting wall using pillars to aid in heat dissipation

7.1 Supporting Datasheets for Products and Applications

Other documents, which may be appropriate for your application, are available on request:

Code	Identity	Description
X10726	ILS	Local Temperature Sensor
X10727	IRS	Outdoor Temperature Sensor
X20728	PIR	12V PIR
X10729	VR-H	Remote Handset
X10213	ITA	Interaction: Uses for phase angle and for burst fire control
X10255	SRA	Safety requirements: Addressing the Low Voltage Directive (LVD) including, Thermal Data/Cooling, Live Parts Warning, Earthing Requirements and Fusing Recommendations
X10378	ILR	Inductive loads remedy sheet for use with phase angle controllers
P01.1	COS	UAL Conditions of Sale

Note: It is recommended that installation and maintenance of this equipment should be carried out by suitably qualified personnel, with reference to the current edition of the I.E.E. Wiring Regulations BS7671. The regulations contain important requirements regarding the safety of electrical equipment.

RoHS COMPLIANT

Not for general waste

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8 Product Application

This product is suitable for any application where high inrush current is an issue or control is required.
Typically used for Infra-red heating lamps or garden lighting.

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