



Infresco 6kW Variable Controller  
User Manual  
X20029  
Issue 5



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automation**

# X20029 – Infresco 6kW Variable Controller

## User Manual

### Issue 6



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#### 1 Key Features

- Soft-Start – up to 30% extended lamp life.
- Variable Control – allows the user to find the perfect comfort level.
- Simple Installation – able to be connected directly with a 13A plug, up to a 3kW load.
- Energy Saving – automated system, only heating when required.
- Temperature Monitoring – if the ambient is above the pre-set temperature then the controller remains switched off.

#### 2 Applications

Any application where high in-rush current is an issue or control is required. Typical uses are infrared heating lamps e.g. garden lighting.

#### 3 Technical Specification

|  |                                    |
|--|------------------------------------|
| Main Voltage                                 | 230VAC ±10% @ 50Hz                 |
| Max Load at 20°C Ambient                     | 6kW                                |
| Power Consumption                            | 50mA                               |
| PIR Set Time Period                          | 5 minutes                          |
| Temperature Set Point                        | 5 – 25°C                           |
| Factory Set Temperature Trip Point           | 20°C                               |
| Gland Diameter                               | Max Cable Entry 2.5mm <sup>2</sup> |
| 2 Lamp Installation                          | Must be fitted in parallel         |
| Ambient Operating Temperature                | 20°C – 30°C                        |
| IP Rating                                    | IP65                               |
| Unit's Max. Operating Temperature            | 65°C                               |
| Dimensions                                   | W=280mm D=200mm H80mm              |
| <i>PIR Movement Sensor (optional)</i>        |                                    |
| Operating Voltage                            | 12V DC                             |
| Direction                                    | 90°Adjustable                      |
| Detect                                       | 18 Metres                          |
| <i>Outdoor Temperature Sensor (optional)</i> |                                    |
| Dimensions                                   | W=115mm D=110mm H=55mm             |

#### 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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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

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

#### 5.1 Push button operation (see also 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)

#### 5.2 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.

#### 5.3 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.



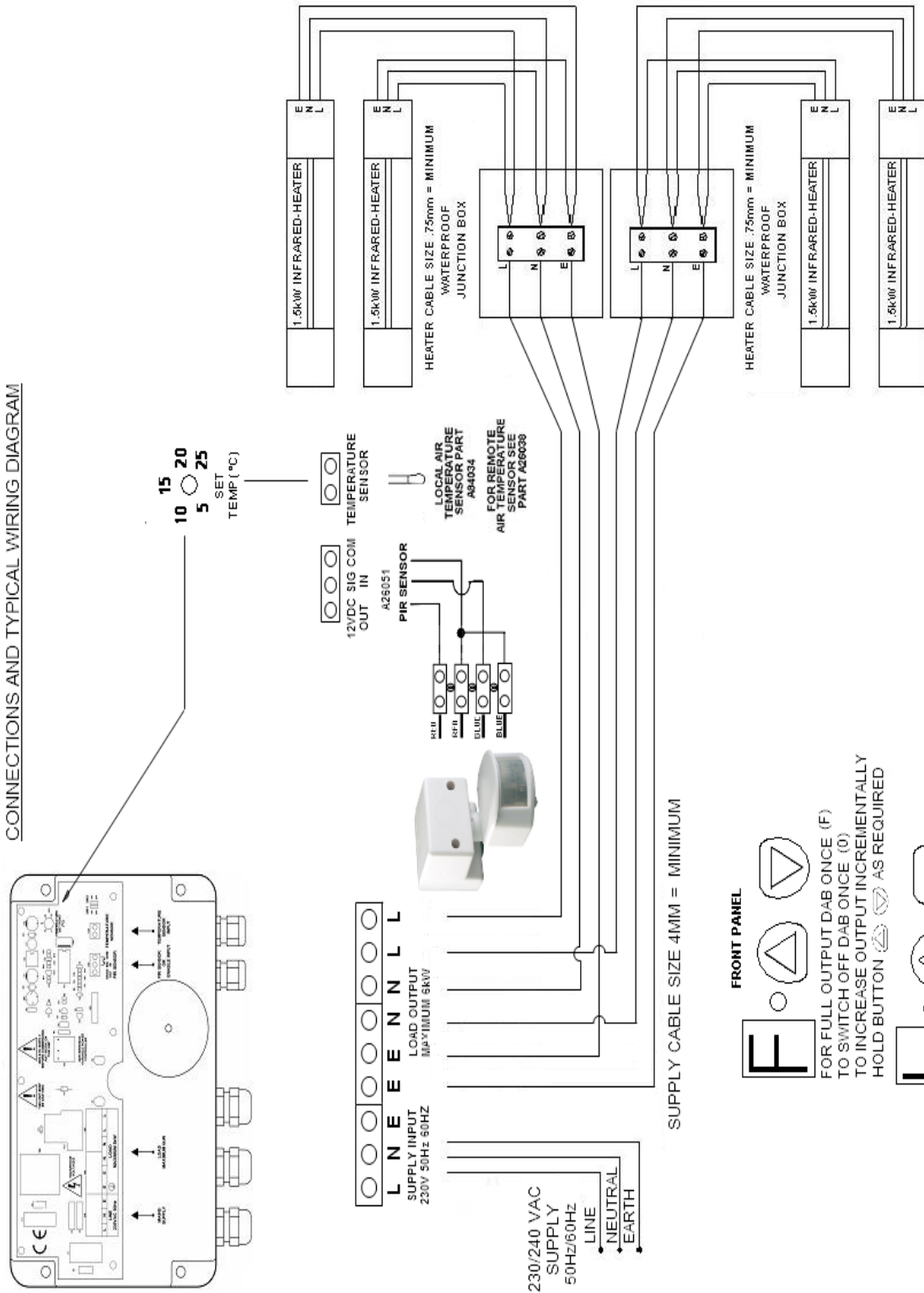
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## 7 Recommendation & Safety Requirements

### 7.1 Supporting Datasheets for Products & Applications

Other documents, which may be appropriate for your applications, are available on request.

| Code   | Identity | Description  |
|--------|----------|--|
| X10726 | ILS      | Local Temperature Sensor   |
| X10727 | IRS      | Outdoor Temperature Sensor   |
| X10728 | 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 & 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.T. Wiring Regulations BS7671. The regulations contain important requirements regarding the safety of electrical equipment.



#### 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



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